INDEXES TO THE JOURNAL

compiled by the

American Ceramic Society

VOL. 43, NO. 12 **DECEMBER 1, 1960**

AUTHOR INDEX TO THE JOURNAL

The reference number in parentheses refers to the *monthly* issue of *The Journal;* the numbers following are the *page* numbers.

Agrell, S. O., and Smith, J. V. Cell dimensions, solid solutions, polymorphism, and identification of mullite and sillimanite, (2) 69–76.
Aitken, E. A. Initial sintering kinetics of beryllium oxide, (12) 627–33.
Anderson, Scott, and Kimpton, D. D. Some phenomena related to the hydrophobicity of silicate glasses and adsorbed oxygen, (9) 484–88.
Andrés, Francisca de. See Cierva, Piedad de la.
Andres, F. H., and Richardson, J. H. New cement for preparation of ceramic thin sections, (5) 282.
Argon, A. S., Hori, Y., and Orowan, E. Indentation strength of glass, (2) 86–96.
Argyle, J. F., and Hummel, F. A. Dilatometric and X-ray data for lead compounds, I, (9) 452–57.
Atlas, Leon M., and Firestone, Ross F. Application of thermoluminescence and reflectance methods to study of lattice defects in alumina ceramics, (9) 476–84.

Baldock, P. J. See Robins, R. G.
Barber, S. W., Forry, K. E., and Degering, Ed. F. Effects of electron bombardment on elasticity and mechanical damping of certain glasses, (8) 408–12.
Baskin, Y., Harada, Y., and Handwerk, J. H. Some physical properties of thoria reinforced by metal fibers, (9) 489–92.
Bates, J. L. See Brenden, Byron B.
Baxter, P., and Hellicar, N. J. Electrical properties of lead-barium niobates and associated materials, (11) 578–83.
Bayer, G. Cr_2WO_6, a new trirutile compound, (9) 495–96.
Beauchamp, Edwin K. "Flash etching" of Al_2O_3 grain boundaries, (10) 552.
Best, B. See Mangsen, G. E.
Bestul, A. B. See Shepley, L. C.
Bidwell, L. R. See Rizzo, H. F.
Binder, Ira. Structure and properties of rare-earth and yttrium hard metals, (6) 287–92.
Bishay, Adli M. A gamma-ray induced absorption band in some lead borate glasses, (8) 417–21.
Blair, G. E. Applications of radiation effects in glasses in low- and high-level dosimetry, (8) 426–29.
Blair, G. Richard. Determination of spectral emissivity of ceramic bodies at elevated temperatures, (4) 197–203.
Bonnaud, M. See Paymal, J.
Bredig, M. A. The high-temperature cubic phases of uranium and lanthanum dicarbides, (9) 493.
Brenden, B. B. See Newkirk, H. W.
Brenden, Byron B., Newkirk, H. W., and Bates, J. L. Principles of high-temperature microscopy, (5) 246–51.
Brindley, G. W. See Stemple, Irene S.
Brindley, G. W., and Maroney, Dorothy M. High-temperature reactions of clay mineral mixtures and their ceramic properties: II, Reactions of kaolinite-mica-quartz mixtures compared with the K_2O–Al_2O_3–SiO_2 equilibrium diagram, (10) 511–16.
Brindley, G. W., and Udagawa, S. High-temperature reactions of clay mineral mixtures and their ceramic properties: I, Kaolinite-mica-quartz mixtures with 25 weight % quartz, (2) 59–65.
Brockus, C. G. See Sharpe, C. B.
Brown, Sherman D. Temperature dependence of growth processes in glass devitrification, (2) 116–17.
Brownell, W. E. Retention of sulfates by fired clay products, (4) 179–83.
Buckner, Dean A., and Roy, Rustum. Note on a subsolidus study of the system $CaSiO_3$–$SrSiO_3$, (1) 52–53.
Bunting, E. N. See Marzullo, S.
Burdick, M. D. See Knudsen, F. P.

Caporali, Ronald. See Rindone, Guy E.
Carter, R. E. Dissociation pressures of solid solutions from Fe_3O_4 to $0.4Fe_3O_4 \cdot 0.6CoFe_2O_4$, (9) 518–52.
Chipman, John. See Pillay, T. C. M.
Cierva, Piedad de la, and Andrés, Francisca de. Crystallization of silica on polished glass surfaces, (6) 306–13.
Clevenger, T. R., Jr. See Economos, George.
Cohen, Sabatino. See Garino-Canina, Vittorio.
Cole, W. F. See Demediuk, Thaisa.
Comer, Joseph J. Electron microscope studies of mullite development in fired kaolinites, (7) 378–84.
Cooper, A. J., Jr. Effect of aspect ratio and viscosity gradients on flow through open channels, (2) 97–104.
Cox, John E. See McIntosh, John I.
Cutler, Ivan B. See Jorgensen, Paul J.

Dadape, V. V. See Wang, Ke-Chin.
Day, Delbert E. See Rindone, Guy E.
Deadmore, Daniel L., and Machin, James S. Phase relations in some halide systems, (11) 592–94.
Dean, George, and Jones, P. R. Factorial design of experiments in ceramics, II, (6) 283–87.
Degering, Ed. F. See Mike, T. M.; Barber, S. W.
Demediuk, Thaisa, and Cole, W. F. Contribution to the study of moisture expansion in ceramic materials, (7) 359–67.
D'Entremont, John. See Pillay, T. C. M.
DeVries, R. C. Lowering of Curie temperatures of $BaTiO_3$ by chemical reduction, (4) 226.
Diamond, J. J., and Schneider, S. J. Apparent temperatures measured at melting points of some metal oxides in a solar furnace, (1) 1–3.
Dodge, N. B. See Hubble, D. H.
Doremus, R. H. Diffusion of oxygen from contracting bubbles in molten glass, (12) 655–61.
Dreger, Lloyd H. See Wang, Ke-Chin.
Dulin, F. H., and Rase, D. E. Phase equilibria in the system ZnO–TiO_2, (3) 125–31.

Economos, George, and Clevenger, T. R., Jr. Magnetic ceramics: VII, Effect of iron oxide particle size on nickel ferrite formation, (1) 48–52.
Eusner, G. R., and Hubble, D. H. Technology of spinel-bonded periclase brick, (6) 292–96.
Evans, P. E. The system UO_2–ZrO_2, (9) 443–47.

Fang, P. H., Roth, R. S., and Johnson, H. Class of nonlinear dielectric materials, (3) 169.
Firestone, Ross F. See Atlas, Leon M.
Fisher, J. R. See Sauer, H. A.
Flaschen, S. S. See Sinclair, W. Robert.
Flaschen, Steward S., Pearson, A. David, and Northover, William R. Formation and properties of low-melting glasses in the ternary systems As–Tl–S, As–Tl–Se, and As–Se–S, (5) 274–78.
Fleischer, D. H. See West, R. R.
Florio, John V. Dielectric properties of alumina at high temperature, (5) 262–67.
Forry, K. E. See Barber, S. W.
Foster, Perry A., Jr. Determination of the cryolite-alumina phase diagram by quenching methods, (2) 66–68; Liquidus curves in the quaternary system NaF–AlF_3–CaF_2–Al_2O_3, (8) 437–38.
Francis, R. K., and Tinklepaugh, J. R. Thermal conductivity in ceramic-metal laminates, (11) 560–63.
Friedberg, A. L. See Spriggs, R. M.
Friedman, H. A. See Weaver, C. F.; Thoma, R. E.

Gabriel, J. See Hope, I. C.
Garino-Canina, Vittorio, and Cohen, Sabatino. Thermoluminescence of vitreous germanium oxide containing the impurity aluminum, (8) 415–16.
Garrett, W. G., and Williams, L. S. Progress in aqueous slip casting of magnesia, (2) 114.
Gibbs, Peter. See Scheuplein, Robert.
Glaister, R. M. Solid solution dielectrics based on sodium niobate, (7) 348–53.
Glasser, F. P., and Osborn, E. F. The ternary system MgO–MnO–SiO_2, (3) 132–40.
Goldstein, Harold W. See Walsh, Patrick N.
Goodman, G. Ferroelectric behavior in barium zirconium metaniobate, (2) 105–13.
Gorum, A. E., Luhman, W. J., and Pask, J. A. Effect of impurities and heat-treatment on ductility of MgO, (5) 241–45.
Goto, Yasumasa, and Takada, Toshio. Phase diagram of the system BaO–Fe_2O_3, (3) 150–53.
Grisaffe, Salvatore J. Thermal expansion of hafnium carbide, (9) 494.

Hamilton, D. R. See Seidensticker, R. G.
Handwerk, J. H. See Baskin, Y.; Lynch, E. D.
Harada, Y. See Baskin, Y.
Harris, L. A. See Thoma, R. E.
Hecht, N. See West, R. R.
Hedden, W. A., and King, B. W. Antimonate glass for infrared-transmitting windows, (7) 387–88.
Hedden, W. A., Kircher, J. F., and King, B. W. Investigation of some glasses for high-level gamma-radiation dosimeters, (8) 413–15.
Hellicar, N. J. See Baxter, P.
Hill, D. C. See Kingery, W. D.
Hirayama, Chikara. Volatility of lead silicate and lead borate binary melts, (10) 505–509.
Hoenig, C. L. See Lynch, E. D.
Hope, I. C., Gabriel, J., and McDowall, I. C. Moisture movement and readsorption in dried clay articles, (11) 553–60.
Hori, Y. See Argon, A. S.
Hoskyns, W. R. See West, R. R.
Hubble, D. H. See Eusner, G. R.
Hubble, D. H., and Dodge, N. B. A study in commercial periclases, (7) 343–47.
Hudson, R. M., Kotyk, M., and Stragand, G. L. Influence of cold-reduction practice on hydrogen behavior in enameling steels, (11) 564–70.
Hulse, Charles O., and Pask, Joseph A. Mechanical properties of magnesia single crystals in compression, (7) 373–78.
Hummel, F. A. See Sastry, B. S. R.; Murthy, M. Krishna; Sarver, James F.; Argyle, J. F.; Kim, K. H.
Hummel, F. A., Tien, T. Y., and Kim, K. H. Studies in lithium oxide systems: VIII, Application of silicate liquid immiscibility to development of opaque glazes, (4) 192–97.

Iida, Yoshio. Time dependence of NiO–Li_2O solid solution formation, (2) 117–18; Evaporation of lithium oxide from solid solution of lithium oxide in nickel oxide, (3) 171–72; The lattice parameter of nickel oxide as a function of lithium oxide dissolved, (4) 225.
Insley, H. See Weaver, C. F.

Jacoby, W. R. See Ploetz, G. L.
Jaffé, H. H. See Notz, K. J.
Johnson, H. See Fang, P. H.
Jones, P. R. See Dean, George.
Jorgensen, Paul J., Wadsworth, Milton E., and Cutler, Ivan B. Effects of oxygen partial pressure on the oxidation of silicon carbide, (4) 209–12.

Kalman, P. G. Nonuniform toughening of a glass disk, (6) 313–25.
Kebler, R. W. See Rudnese, R. G.
Kim, K. H. See Hummel, F. A.
Kim, K. H., and Hummel, F. A. Studies in lithium oxide systems: IX, Li_2O–Al_2O_3–TiO_2, (12) 611–14.
Kimpton, D. D. See Anderson, Scott.
King, B. W. See Hedden, W. A.
Kingery, W. D. See Lee, D. W. Correction, December 1959 *Journal* paper, (12) 669.
Kingery, W. D., Hill, D. C., and Nelson, R. P. Oxygen mobility in polycrystalline $NiCr_2O_4$ and α-Fe_2O_3, (9) 473–76.
Kircher, J. F. See Hedden, W. A.

Klingsberg, Cyrus, and Roy, Rustum. Solid-solid and solid-vapor reactions and a new phase in the system Mn–O, (12) 620–26.
Knudsen, F. P., Parker, H. S., and Burdick, M. D. Flexural strength of specimens prepared from several uranium dioxide powders; its dependence on porosity and grain size and the influence of additions of titania, (12) 641–47.
Kotyk, M. See Hudson, R. M.
Kriegel, W. W. See Moody, W. E.
Kronberg, M. L. See May, J. E.
Kronberg, M. L., and May, J. E. Ductility of magnesium oxide single crystals, (8) 438.

Lam, D. G., Jr. See Wachtman, J. B., Jr.
Lambertson, W. A. See Mangsen, G. E.
Le Clerc, P. See Paymal, J.
Lee, D. W., and Kingery, W. D. Radiation energy transfer and thermal conductivity of ceramic oxides, (11) 594–607.
Lell, E. Synthesized impurity centers in fused silica, (8) 422–26.
Levy, A. S. See Priest, D. K.
Levy, Paul W. The kinetics of gamma-ray induced coloring of glass, (8) 389–95.
Ljunggren, Pontus. Determination of mineralogical transformations of gypsum by differential thermal analysis, (4) 227.
Luhman, W. J. See Gorum, A. E.
Lynch, E. D., Handwerk, J. H., and Hoenig, C. L. Oxidation studies of urania-thoria solid solutions, (10) 520–24.

MacChesney, J. B., and Muan, Arnulf. The system iron oxide–TiO_2–SiO_2 in air, (11) 586–91.
McClelland, J. D., and Zehms, E. H. Thermal conductivity of magnesia from 1030° to 1880°C., (1) 54.
McDowall, I. C. See Hope, I. C.
Machin, James S. See Deadmore, Daniel L.
McIntosh, John L., and Cox, John E. Colorimetric determination of boron in porcelain enamel frits, (3) 123–24.
Mackenzie, J. D. Fusion of quartz and cristobalite, (12) 615–20.
Mackenzie, J. D., and White, J. L. The Si–O–Si angle and the structure of vitreous silica, (3) 170–71.
Mangsen, G. E., Lambertson, W. A., and Best, B. Hot pressing of aluminum oxide, (2) 55–59.
Marcus, L. See Salmon, O. N.
Margrave, John L. See Wang, Ke-Chin.
Maroney, Dorothy M. See Brindley, G. W.
Marzullo, S., and Bunting, E. N. Some ceramic dielectrics with a very low temperature coefficient of capacitance, (11) 609.
May, J. E. See Kronberg, M. L.
May, J. E., and Kronberg, M. L. Temperature dependence of plastic yield stress of single crystals of magnesium oxide, (10) 525–30.
Meller, F., and Milberg, M. E. The structure of some B_2O_3–H_2O glasses, (7) 353–56.
Mike, T. M., Steierman, B. L., and Degering, Ed. F. Effects of electron bombardment on properties of various glasses, (8) 405–407.
Milberg, M. E. See Parsons, J. L.; Meller, F.
Miyabe, Hisako. See Yamaguchi, Goro.
Moody, W. E., Whitehead, W. D., and Kriegel, W. W. Activation energy for diffusion of ^{133}Xe through MgO-Ni cermet compacts, (12) 634–40.
Moruzzi, V. L., and Shafer, M. W. Phase equilibria in the system La_2O_3–iron oxide in air, (7) 367–72.
Mould, R. E. Strength and static fatigue of abraded glass under controlled ambient conditions: III, Aging of fresh abrasions, (3) 160–67.
Muan, Arnulf. See MacChesney, J. B.
Muan, Arnulf, and Sōmiya, Shigeyuki. Phase relations in the system iron oxide–Cr_2O_3 in air, (4) 204–209; Phase equilibria in the system iron oxide–Cr_2O_3–SiO_2 in air, (10) 531–41.
Muccigrosso, A. T. See Ploetz, G. L.; West, R. R.
Mumpton, F. A., and Roy, Rustum. Low-temperature equilibria among ZrO_2, ThO_2, and UO_2, (5) 234–40.
Murray, G. T. Brittle-ductile transition temperatures in ionic crystals, (6) 330–34.
Murthy, M. Krishna, and Hummel, F. A. X-ray study of the solid solution of TiO_2, Fe_2O_3, and Cr_2O_3 in mullite ($3Al_2O_3 \cdot 2SiO_2$), (5) 267–73.

Nelson, C. M. See Weeks, R. A.
Nelson, C. M., and Weeks, R. A. Trapped electrons in irradiated quartz silica: I, Optical absorption, (8) 396–99.
Nelson, R. P. See Kingery, W. D.
Newkirk, H. W., and Brenden, B. B. A carbon arc image furnace and microscope for studies at high temperatures, (3) 146–50.
Newkirk, H. W. See Brenden, Byron B.
Northover, William R. See Flaschen, Steward S.
Notz, K. J., and Jaffé, H. H. Correlation of TGA and DTA temperatures in decomposition reactions, (1) 53–54.

Ormsby, W. C. See Woodside, K. H.
Ormsby, W. C., and Shartsis, J. M. Surface area and exchange capacity relation in a Florida kaolinite, (1) 44–47; Clay mineral content of two domestic kaolins, (6) 335.
Orowan, E. See Argon, A. S.
Osborn, E. F. See Glasser, F. P.
Osika, L. M. See Ploetz, G. L.

Paladino, A. E. Phase equilibria in the ferrite region of the system FeO–MgO–Fe_2O_3, (4) 183–91.
Parker, H. S. See Knudsen, F. P.
Parsons, J. L., and Milberg, M. E. Vibrational spectra of vitreous $B_2O_3 \cdot xH_2O$, (6) 326–30.
Pask, J. A. See Gorum, A. E.; Hulse, Charles O.
Paymal, J., Bonnaud, M., and Le Clerc, P. Radiation dosimeter glasses, (8) 430–36.
Pearson, A. David. See Flaschen, Steward S.
Peters, P. G. See Sinclair, W. Robert.
Pillay, T. C. M., D'Entremont, John, and Chipman, John. Stability of hercynite at higa temperatures, (11) 583–85.
Ploetz, G. L., Muccigrosso, A. T., Osika, L. M., and Jacoby, W. R. Dysprosium oxide ceramics, (3) 154–59.
Priest, D. K., and Levy, A. S. Effect of water content on corrosion of borosilicate glasses, (7) 356–58.
Proctor, T. M., and Sutton, Paul M. Space-charge development in glass, (4) 173–79.

Rase, D. E. See Dulin, F. H.
Richardson, J. H. See Andres, F. H.
Rindone, Guy E. See Ryder, Robert J.
Rindone, Guy E., Day, Delbert E., and Caporali, Ronald. Relative acidities of glasses containing Al_2O_3 and TiO_2 as determined by the oxygen electrode, (11) 571–77.
Rizzo, H. F., and Bidwell, L. R. Formation and structure of SiB_4, (10) 550–52.
Rizzo, H. F., Weber, B. C., and Schwartz, M. A. Refractory compositions based on silicon-boron-oxygen reactions, (10) 497–504.
Robbins, C. R. The compound $BaTiGe_2O_6$, (11) 610.
Robins, R. G., and Baldock, P. J. Uranium oxide cleavage, (4) 228.
Roth, R. S. See Fang, P. H.; Schneider, S. J.
Roy, Rustum. Metastable liquid immiscibility and subsolidus nucleation, (12) 670–71. See also Buckner, Dean A.; Mumpton, F. A.; Klingsberg, Cyrus.
Rudness, R. G., and Kebler, R. W. Growth of single crystals of incongruently melting yttrium iron garnet by flame fusion process, (1) 17–22.
Ryder, Robert J., and Rindone, Guy E. Internal friction of simple alkali silicate glasses containing alkaline-earth oxides: I, Experimental results, (12) 662–69.

Salmon, O. N., and Marcus, L. Note on sublimation of lithium from Li-Ni ferrite, (10) 549–50.
Sarver, James F., and Hummel, F. A. Alpha to beta transition in germania quartz and a pressure-temperature diagram for GeO_2, (6) 336.
Sastry, B. S. R., and Hummel, F. A. Studies in lithium oxide systems: VII, Li_2O–B_2O_3–SiO_2, (1) 23–33.
Sauer, H. A., and Fisher, J. R. Processing of positive temperature coefficient thermistors, (6) 297–301.
Schelker, D. H. See West, R. R.
Scheuplein, Robert, and Gibbs, Peter. Surface structure in corundum: I, Etching of dislocations, (9) 458–72.
Schneider, S. J. See Diamond, J. J.
Schneider, S. J., and Roth, R. S. Perovskite-type compounds in binary rare earth oxide systems, (2) 115.
Schwartz, M. A. See Rizzo, H. F.
Segatto, Peter R. Analysis of boron in borosilicate glasses by neutron transmission, (5) 278–81.
Seidensticker, R. G., and Hamilton, D. R. Comment on paper of R. C. DeVries on barium titanate, (7) 385.
Shafer, M. W. See Moruzzi, V. L.
Sharpe, C. B., and Brockus, C. G. Method of measuring the dielectric constant of ferroelectric ceramics at S-band frequencies, (6) 302–305.
Shartsis, J. M. See Ormsby, W. C.
Shepley, L. C., and Bestul, A. B. Variations of surface tension calculated with improved approximation for activity coefficient, (7) 386–87.
Sinclair, W. Robert, Flaschen, S. S., and Peters, P. G. Direct deposition of sulfide glass films by evaporation, (3) 168.
Smith, J. V. See Agrell, S. O.
Sōmiya, Shigeyuki. See Muan, Arnulf.
Sorrell, Charles A. Reaction sequence and structural changes in cordierite refractories, (7) 337–43.
Spriggs, R. M., and Friedberg, A. L. Reaction kinetics of porcelain enamel-metal systems, (5) 252–62.
Steierman, B. L. See Mike, T. M.
Stemple, Irene S., and Brindley, G. W. A structural study of talc and talc-tremolite relations, (1) 34–42.
Stinchfield, R. P. See Wachtman, J. B., Jr.
Stragand, G. L. See Hudson, R. M.
Subbarao, E. C. Studies on lead titanate ceramics containing niobium or tantalum, (3) 119–22; X-ray study of phase transitions in ferroelectric $PbNb_2O_6$ and related materials, (9) 439–42.
Sutton, Paul M. See Proctor, T. M.
Sutton, W. H. Apparatus for measuring thermal conductivity of ceramic and metallic materials to 1200°C., (2) 81–86.

Takada, Toshio. See Goto, Yasumasa.
Tefft, W. E. See Wachtman, J. B., Jr.
Thoma, R. E. See Weaver, C. F.
Thoma, R. E., Weaver, C. F., Friedman, H. A., and Harris, L. A. The compounds $NaF \cdot BeF_2 \cdot 3ThF_4$ and $NaF \cdot BeF_2 \cdot 3UF_4$, (11) 608–609.
Tien, T. Y. See Hummel, F. A.
Tilton, Leroy W. Structural and thermal expansions in alkali silicate binary glasses, (1) 9–17.
Tinklepaugh, J. R. See Francis, R. K.

Udagawa, S. See Brindley, G. W.

Van Vlack, Lawrence H. Microstructure of silica in the presence of iron oxide, (3) 140–45.
Vasilos, Thomas. Hot pressing of fused silica, (10) 517–19.

Wachtman, J. B., Jr., Tefft, W. E., Lam, D. G., Jr., and Stinchfield, R. P. Elastic constants of synthetic single-crystal corundum at room temperature, (6) 334.
Wadsworth, Milton E. See Jorgensen, Paul J.
Walsh, Patrick N., Goldstein, Harold W., and White, David. Vaporization of rare-earth oxides, (5) 229–33.
Wang, Ke-Chin, Dreger, Lloyd H., Dadape, V. V., and Margrave, John L. Sublimation of Cr_2O_3 at high temperatures, (10) 509–10.
Warshaw, I. Structural implications of the microscopy of glass surfaces, (1) 4–9.
Weaver, C. F. See Thoma, R. E.
Weaver, C. F., Thoma, R. E., Insley, H., and Friedman, H. A. Phase equilibria in the systems UF_4–ThF_4 and LiF_4–UF_4–ThF_4, (4) 213–18.
Weber, B. C. See Rizzo, H. F.
Weeks, R. A. See Nelson, C. M.
Weeks, R. A., and Nelson, C. M. Trapped electrons in irradiated quartz and silica: II, Electron spin resonance, (8) 399–404.
West, R. R., Fleischer, D., Hecht, N., Hoskyns, W. R., Muccigrosso, A., and Schelker, D. H. Causes of chipping of a stiff-mud facing brick, (12) 648–54.
White, David. See Walsh, Patrick N.
White, J. L. See Mackenzie, J. D.
Whitehead, W. D. See Moody, W. E.
Whitmore, D. H. Apparent thermal conductivity of a heterogeneous ceramic body under isothermal conditions, (5) 281–82.
Williams, L. S. See Garrett, W. G.
Wilson, W. B. High-temperature X-ray diffraction investigation of the uranium–carbon system, (2) 77–81.
Woodside, K. H., and Ormsby, W. C. Surface-area determination of kaolinite using glycerol adsorption, (12) 671–72.
Wright, Harold D. An optical study of talc-tremolite relations, (1) 42–43.

Yamaguchi, Goro, and Miyabe, Hisako. Precise determination of the $3CaO \cdot SiO_2$ cells and interpretation of their X-ray diffraction patterns, (4) 219–24.
Yang, Julie Chi-Sun. The system magnesia–silica–water below 300°C.: I, Low-temperature phases from 100° to 300°C. and their properties, (10) 542–49.

Zehms, E. H. See McClelland, J. D.

SUBJECT INDEX TO THE JOURNAL

Volume 43, 1960

The reference number in parentheses refers to the *monthly* issue of *The Journal;* the number following is the *page* number.

Absorptiometry, neutron, apparatus for, (5) 279.
Absorption, band, γ-ray induced, in lead borate glasses, (8) 417; optical, of GeO_2 glasses, effect of Al, (8) 416; optical, of irradiated quartz and silica, (8) 396.
Acidity, relative, of glasses containing Al_2O_3 and TiO_2, determination by oxygen electrode, (11) 571.
Activity coefficient, improved approximation for, in calculation of variations of surface tension, (7) 386.
Adsorption, re-, in dried clay articles, (11) 553.
Aging, of glass abrasions, effect on properties, (3) 162.
Alkaline earths, oxides, internal friction of alkali silicate glasses containing, I, (12) 662.
Alumina. See also *Phase diagrams; Systems.*
apparent temperature at melting point, (1) 2.
bodies, emissivity vs. temperature, (4) 202.
ceramics, lattice defects, thermoluminescence and reflectance studies, (9) 476.
crucibles, liquid iron in, observations at 1700°C., (11) 584.
dielectric properties at high temperatures, (5) 262.
gels, coprecipitated with silica gels, factors affecting moisture expansion, (7) 361.
grain boundaries, flash etching of, (10) 552.
hot pressing of, (2) 55.
infrared transmission of, (11) 599.
thermal conductivity data, (2) 84.
as variable in liquidus curves in system NaF–AlF_3–CaF_2–Al_2O_3, (8) 437.
Aluminum. See also *Systems.*
effect on properties of fused silica, (8) 424.
effect on thermoluminescence of GeO_2 glasses, (8) 415.
impurity, poisoning action in La-doped Ba Sr titanate, (6) 301.
oxide. See *Alumina.*
stearate, effect on strength of UO_2 specimens, (12) 647.
Analysis. See *Electron diffraction; Microscopy; Testing; Thermal analysis.*
Apparatus. See *Testing.*
Arsenic. See *Systems.*
Aspect ratio, effect on flow through open channels, (2) 97.

Barium. See also *Phase diagrams; Systems.*
$BaTiGe_2O_9$, synthesis of, (11) 610.
Pb-, niobates, electric properties, (11) 578.
strontium titanate thermistor material preparation, (6) 298.
titanate, comment on DeVries paper on, (7) 385.
dielectric constant vs. temperature fired under different pressure conditions, (6) 305.
lowering of Curie temperature by chemical reduction, (4) 226.
zirconium metaniobate, ferroelectric behavior, (2) 105.
Beryllium, oxide, initial sintering kinetics, (12) 627.
Bixbyite, -hausmannite reaction, (12) 623.
Bodies, ceramic, factorial design of experiments, (6) 283; heterogeneous, apparent thermal conductivity under isothermal conditions, (5) 281.
Borides, of rare earths, structure and properties, (6) 290.
Boron, in borosilicate glasses, analysis by neutron transmission, (5) 278.
in enamel frits, colorimetric determination, (3) 123.
oxide, compounds, infrared spectra of, (6) 328. See also *Phase diagrams; Quenching data; Systems.*
and Si, reactions in air, in forming refractory material, (10) 497.
Brick, face, cause of chipping of, (12) 648.

Cadmium, niobate, dielectric constant vs. frequency, (6) 305. See also *Systems.*
Calcium, fluoride, infrared transmission of, (11) 600. See also *Systems.*
Carbon, content, determination in UC and UC_2, (2) 80. See also *Phase diagrams; Systems.*
Cement, for preparation of ceramic thin sections, (5) 282.
Cerium, content, in lead borate glasses, effect of increase on density, (8) 419. See also *Systems.*
Cermets, MgO-Ni compacts, activation energy for diffusion of ^{133}Xe through, (12) 634.
Chemical analysis, of MgO single crystals, (10) 526.
Chemical durability, of irradiated glass specimens, (8) 406.
Chemical properties, of sulfide glass systems, (5) 276.
Chemical reduction, in lowering of Curie temperature of $BaTiO_3$, (4) 226.
China clay. See *Kaolin.*
Chipping, of face brick, causes of, (12) 648.
Chromium. See also *Phase diagrams; Quenching data; Systems.*
chromic oxide, sublimation at high temperatures, (10) 509.
Cr_2WO_6, new trirutile compound, (9) 495.
oxide, mullite-, solid solutions, (5) 272.

Clays, mineral mixtures, high-temperature reactions and ceramic properties, I, (2) 59; II, (10) 511; minerals, content of two domestic kaolins, (6) 335; see also *Kaolin.*
Coatings, glass sulfide, direct deposition by evaporation, (3) 168. See also *Enamels.*
Cobalt, as metallic ion in enamels, (5) 260.
Colloids, gels, silica and alumina, coprecipitated, moisture expansion study of, (7) 360.
Colorimetry, method, for determination of B in enamel frits, (3) 123.
Compatibility relations, of lithia–alumina–titania systems at various temperatures, (12) 613.
Conductivity, electrical, of alumina, comparison of reported values, (5) 266.
thermal, apparent, of heterogeneous ceramic body under isothermal conditions, (5) 281.
in ceramic-metal laminates, (11) 560.
of ceramic and metallic materials to 1200°C., apparatus for measuring, (2) 82.
of ceramic oxides, (11) 594.
of MgO from 1030° to 1880°C., (1) 54.
of reinforced thoria as function of temperature, (9) 492.
sources of error affecting values, (2) 86.
Copper, as metallic ion in enamels, (5) 258; thermal conductivity data, (2) 84.
Cordierite, formation, reaction sequence, (7) 340.
Corrosion, of borosilicate glass, effect of water content on, (7) 356.
Corundum, surface structure in, I, (9) 458; synthetic single-crystal, elastic constants at room temperature, (6) 334.
Cracks, in glass, disappearance after indentation tests, (2) 96.
Creep, of MgO single crystals in compression, (7) 374.
Cristobalite, content, of gels of silica and alumina, (7) 365.
formation, in iron oxide-silica liquid, (3) 145.
fusion, (12) 615.
Si–O–Si angle and molar volume, (3) 170.
Cryolite, ratio, as variable in liquidus curves for system NaF–AlF_3–CaF_2–Al_2O_3, (8) 437. See also *Systems.*
Crystallization, of glasses, effect of structure and composition, (12) 670; of silica on polished glass surfaces, (6) 306.
Crystallography, data, of Ba Zr metaniobate single crystals, (2) 105.
Crystals, dislocations, in corundum, (9) 459.
interplanar spacings in SiB_4, (10) 551.
lattice defects, in alumina ceramics, thermoluminescence and reflectance studies, (9) 476.
size, of periclase, effect of variation, (7) 346.

Damping, mechanical, of glasses, effect of electron bombardment, (8) 408.
Decomposition, reactions, correlation of TGA and DTA temperatures in, (1) 53.
Deformation, load, of spinel-bonded periclase brick, (6) 294; mechanism, of single crystal MgO, (7) 376.
Dehydration, thermal, curves for hydrated magnesium silicates, (10) 547.
Density, of hot-pressed alumina, factors affecting, (2) 58.
of irradiated glass specimens, (8) 407.
optical, of dosimeter glasses, factors affecting, (8) 435.
optical, of lead borate glasses, effect of radiation, (8) 418.
of sintered rare-earth oxides, (4) 201.
Dielectrics. See also *Ferroelectricity and ferroelectric materials.*
ceramic, with very low temperature coefficient of capacitance, (11) 609.
constant, of ferroelectric ceramics, measurement at S-band frequencies, (6) 302.
hysteresis loops, for single crystal Ba Zr metaniobate, (2) 108.
materials, nonlinear, class of, (3) 169.
properties, of Al_2O_3 at high temperatures, (5) 262.
of Pb-Ba niobates, (11) 578.
of lead niobate ceramics, (9) 441.
solid solution, based on sodium niobate, (7) 348.
Diffraction. See *Electron diffraction; X rays.*
Diffusion, constants, determination from sintering data of BeO, (12) 631.
measurements, in $NiCr_2O_4$ and α-Fe_2O_3, (9) 474.
of oxygen from contracting bubbles in molten glass, (12) 655.
in specimen of finite size, (12) 661.
Diffusivity, of clay bodies during readsorption, (11) 557.
Dissociation, pressures, of solid solutions from Fe_3O_4 to $0.4Fe_3O_4 \cdot 0.6CoFe_2O_4$, (9) 448.
Dosimeters, high-level γ-radiation, glasses for, (8) 413; low- and high-level, application of glass radiation effects, (8) 426; radiation, glasses for, (8) 430.
Ductility, of MgO, effect of heat-treatment and impurities, (5) 241; of MgO single crystals, (8) 438.

Dysprosium, oxide, ceramic compositions, (3) 154. See also *Systems.*

Earthenware, body, surface area and permeability, (11) 557.
Efflorescence, tests, on specimens fired in air and in sulfurous atmosphere, (4) 182.
Elasticity, elastic constants, of synthetic single-crystal corundum at room temperature, (6) 334.
of glasses, effect of electron bombardment on, (8) 408.
modulus, of specimens cut from fired brick, (12) 650.
Young's modulus, of reinforced thoria, temperature dependence, (9) 491.
Electric properties, of $BaTiO_3$ thermistor materials, effect of thermal history, (6) 300; of Pb-Ba niobates, (11) 578; of sulfide glass systems, (5) 275.
Electric resistivity, of irradiated glass specimens, (8) 407; of Pb-Ba niobates, (11) 579.
Electrodes, oxygen, in determining relative acidities of glasses containing Al_2O_3 and TiO_2, (11) 571.
Electron diffraction, data, for talc-tremolite intergrowths, (1) 37; pattern, of quartz microcrystal, (12) 619.
Electrons, bombardment, effect on elasticity and mechanical damping of glasses, (8) 408; bombardment, effects on properties of glasses, (8) 405; trapped, in irradiated quartz and silica, optical absorption, (8) 396.
Emissivity, spectral, determination in ceramic bodies at high temperatures, (4) 197.
Enameling metals, steel, effect of cold-reduction practice on hydrogen behavior, (11) 564.
Enamels, defects, gas-produced, effect of cold-reduction of steel, (11) 564; -metal systems, reaction kinetics, (5) 252. See also *Coatings; Frits.*
Energy, free, of spinel $FeAl_2O_4$, (11) 585; impact, requirements for chipping brick specimens, (12) 649.
Equilibrium studies, in ferrite region of system FeO–MgO–Fe_2O_3, (4) 183.
low-temperature, among ZrO_2, ThO_2, and UO_2, (5) 234.
in system iron oxide–Cr_2O_3–SiO_2 in air, (10) 531.
in systems Si–B, Si–O, B–O, and B_2O_3–SiO_2, (10) 498.
Erbium, oxide, emissivity vs. temperature, (4) 203.
Etching, of dislocations in corundum, (9) 460; flash, of Al_2O_3 grain boundaries, (10) 552.
Evaporation, of Cr_2O_3 by solar heating, (10) 510; for direct deposition of sulfide glass films, (3) 168; of LiO_2 from solid solution of Li_2O in NiO, (3) 171.
Expansion, moisture, of ceramic materials, (7) 359.
thermal, of Ba Zr metaniobate, (2) 109.
curves for dysprosium oxide compositions, (3) 159.
data for glasses in system Li_2O–B_2O_3–SiO_2, (1) 32.
of HfC, (9) 494.
of lead niobate ceramics, (9) 440.
of low-melting glasses, (5) 275.
mean coefficients for UC, U_2C_3, and UC_2, (2) 79.
and structural, in alkali silicate binary glasses, (1) 9.
vs. temperature, for lead compounds, (9) 454.

Factorial design, of experiments in ceramics, (6) 283.
Fatigue, static, of abraded glass under controlled ambient conditions, (3) 160.
Ferroelectricity and ferroelectric materials, ferroelectric behavior, in Ba Zr metaniobate, (2) 105; ferroelectric ceramics, measurement of dielectric constant at S-band frequencies, (6) 302.
Fire clay, rational mineralogical composition, (12) 650.
Firing, of brick, effect of kiln and of position on kiln car on impact energy required to chip, (12) 650.
Flame fusion, for growing yttrium iron garnet single crystals, (1) 17.
Flow, through open channels, effect of aspect ratio and viscosity gradients, (2) 97.
Forsterite, -stainless steel laminates, thermal conductivity of, (11) 560.
Friction, internal, of alkali silicate glasses containing alkaline-earth oxides, I, (12) 662.
Frits, enamel, colorimetric determination of B in, (3) 123; enamel, preparation for study of reaction kinetics, (5) 252.
Fuels, fluid, for high-temperature reactors, studies in systems UF_4–ThF_4 and LiF–UF_4–ThF_4, (4) 213.
Furnaces, carbon arc image, for high temperature studies, (3) 147.
glassmelting, factors affecting flow through, (2) 103.
hot pressing, (2) 56.
image, microscope system for, (5) 247.
solar, for melting metal oxides, (1) 1.

Furnaces (*continued*)
solar, schematic diagram, (9) 444.
strip, for high temperature quenching studies, (3) 128.
vacuum induction, for Knudsen vaporization measurements, (5) 230.
for X-ray diffraction studies at high temperature, (4) 220.
Fusion, direct, of quartz, (12) 617.

Gadolinium, oxide, emissivity vs. temperature, (4) 203.
Gamma rays, radiation, kinetics of coloring of glass by, (8) 389.
Garnets, yttrium iron, growth of single crystals by flame fusion, (1) 17.
Germanium, dioxide, pressure-temperature diagram, (6) 336; oxide, glass, containing Al, thermoluminescence of, (8) 415.
Glass, abraded, strength and static fatigue under controlled ambient conditions, (3) 160.
alkali silicate, containing alkaline-earth oxides, internal friction of, I, (12) 662.
alkali silicate binary, structural and thermal expansion, (1) 9.
antimonate, for infrared-transmitting windows, (7) 387.
B_2O_3–H_2O, structure of, (7) 353; B_2O_3–H_2O, vibrational spectra of, (6) 326.
borosilicate, analysis of boron in by neutron transmission, (5) 278.
borosilicate, effect of water content on corrosion of, (7) 356.
cation mobility in, (4) 173.
coloring, γ-ray induced, (8) 389.
containing Al_2O_3 and TiO_2, determination of relative acidities by oxygen electrode, (11) 571.
development of immiscibility with time, (1) 29.
devitrification, temperature dependence of growth processes in, (2) 116.
diffusion constant of, (4) 173.
disk, nonuniform toughening of, (6) 313.
effect of electron bombardment on elasticity and mechanical damping, (8) 408.
for high-level γ-radiation dosimeters, (8) 413.
lead borate, γ-ray induced absorption band in, (8) 417.
for low- and high-level dosimetry, application of radiation effects in, (8) 426.
low-melting, formation and properties in systems As–Tl–S, As–Tl–Se, and As–Se–S, (5) 274.
molten, diffusion of oxygen from contracting bubbles in, (12) 655.
opaque, from compositions in systems Li_2O–TiO_2–SiO_2 and CaO–TiO_2–SiO_2, (4) 194.
polished surfaces, crystallization of silica on, (6) 306.
properties, effect of electron bombardment, (8) 405.
quartz, Debye-Scherrer picture, (12) 618.
silicate, hydrophobicity from adsorbed oxygen, (9) 484.
sintered Vycor-brand, infrared transmission of, (11) 599.
space-charge development in, (4) 173.
subsolidus crystallization, (12) 670.
sulfide, direct deposition of films by evaporation, (3) 168.
surface quality, indentation strength measurements for characterizing, (2) 94.
surfaces, structural implications of electron microscopy of, (1) 4.
tensile strength, indentation study of, (2) 86.
Glycerol, adsorption, in determination of surface area of kaolinite, (12) 671.
Grain sizing, effect on spinel-bonded periclase brick, (6) 295.
Graphite, thermal conductivity data, (2) 85.
Grinding and polishing, of glass, discussion of theory, (6) 312.
Gypsum, mineralogical transformations, determination by DTA, (4) 227.

Hafnium, carbide, thermal expansion, (9) 494; oxide, tetravalent, composition limits, (5) 239. See also *Systems*.
Hardness, Knoop, of silicon borides, (10) 551; -temperature relation of crystalline and fused quartz, (12) 619; tester, Monotron, (2) 88.
Heat. See also *Conductivity, thermal; Temperature.*
of activation, for mechanical relaxation in borosilicate glass, (8) 412.
of solution, of irradiated glass specimens,[1] (8) 407.
-treatment, effect on ductility of MgO, (5) 241.
treatment, of quartz crystals, (12) 616.
Heating, solar, and evaporation of Cr_2O_3 at high temperatures, (10) 510.
Heating elements, metal or ceramic, for furnace for high-temperature microscopy, (5) 249.
Hercynite, stability at high temperatures, (11) 583.
Hydrogen, behavior, in enameling steels, effect of cold-reduction practice, (11) 564.
Hydrophobicity, of silicate glasses and adsorbed oxygen, related phenomena, (9) 484.
Hydrothermal data, for system ZnO–TiO_2, (3) 129.

Immiscibility, metastable liquid, and subsolidus nucleation, (12) 670.
Impurities, effect on ductility of MgO, (5) 241; in silica, effect on radiation, (8) 422.
Infrared, transmission, of ceramic oxides, (11) 594; -transmitting windows, antimonate glass for, (7) 387.
Ion exchange, capacity, relation to surface area in kaolinite, (1) 44.
Irdomes, antimonate glass, (7) 388.
Iron. See also *Phase diagrams; Quenching data; Systems.*
melts, in equilibrium with alumina and hercynite, gas ratios and oxygen activities, (11) 585.
as metallic ion in enamels, (5) 258.
oxide, α-Fe_2O_3, polycrystalline, oxygen mobility in, (9) 473.
effect of particle size on nickel ferrite formation, (1) 48.
effect on microstructure of silica, (3) 140.
Fe_3O_4 to $0.4Fe_3O_4 \cdot 0.6CoFe_2O_4$, dissociation pressures of solid solutions from, (9) 448.
mullite-, solid solutions, (5) 271.
Isotopes, in mass 133 decay chain, nuclear properties of, (12) 635.

Kaolin, domestic, clay mineral content, (6) 335; sulfate retention, (4) 181.
Kaolinite, fired, electron microscope study of mullite development in, (7) 378.
Florida, exchange behavior-surface area relations, (1) 44.
-mica-quartz, mineralogy and ceramic properties of mixtures of, (2) 59.
-mica-quartz mixtures, comparison of reactions with K_2O–Al_2O_3–SiO_2 equilibrium diagram, (10) 511.
moisture expansion of gels of composition of, (7) 363.
surface area determination using glycerol adsorption, (12) 671.
Kinetics, of γ-ray induced coloring of glass, (8) 389; reaction, of porcelain enamel-metal systems, (5) 252; sintering, of BeO, (12) 627.

Lanthanum. See also *Phase diagrams; Systems.*
dicarbide, high-temperature cubic phases, (9) 493.
oxide, vaporization of, (5) 231.
solubility in barium titanate, (6) 299.
Lead. See also *Systems.*
-Ba niobate, electric properties, (11) 578.
compounds, dilatometric and X-ray data, I, (9) 452.
content, of borate glasses, effect of increase on density, (8) 419.
niobate, ferroelectric, X-ray study of phase transitions in, (9) 439.
silicate and borate binary melts, volatility of, (10) 505.
titanate ceramics, containing Nb or Ta, (3) 119.
Liquids, immiscible, metastable separation, (12) 670.
Liquidus curves, in system NaF–AlF_3–CaF_2–Al_2O_3, (8) 437.
Lithia. See *Lithium, oxide.*
Lithium. See also *Phase diagrams; Quenching data; Systems.*
effect on properties of fused silica, (8) 424.
fluoride, transition temperature determination, (6) 332.
oxide, dissolved, lattice parameter of NiO as function of, (4) 225.
evaporation from solid solution in NiO, (3) 171.
solid solution in NiO, formation of, (2) 117.
sublimation from Li-Ni ferrite, (10) 549.
Loading rate, effect on stress-strain behavior of MgO single crystals, (7) 377.
Luminescence, thermo-, of fused silica, (8) 424; thermo-, in study of lattice defects in alumina ceramics, (9) 477; thermo-, of vitreous GeO_2 containing Al, (8) 415.

Magnesia. See also *Magnesium, oxide; Phase diagrams; Systems.*
effect of impurities and heat-treatment on ductility of, (5) 241.
periclase, from various sources, comparison of properties and structure, (7) 344.
single crystals, stress-strain curves for, (7) 375.
slip casting, aqueous, (2) 114.
substitution for rare-earth oxides in ceramic dielectrics, (11) 609.
thermal conductivity from 1030° to 1880°C., (1) 54.
transition temperature determinations, (6) 332.
Magnesium. See also *Phase diagrams; Systems.*
fluoride, effect of additions on $NaNbO_3$–$BaTiO_3$ ceramic, (7) 350.
oxide. See also *Magnesia.*
single crystals, ductility of, (8) 438.
single crystals, temperature dependence of plastic deformation, (10) 525.
silicates, synthetic, prepared under various hydrothermal conditions, analytical data, (10) 545.
Magnetic ceramics, effect of iron oxide particle size on nickel ferrite formation, (1) 48.
Magnetometers, compensating-coil, (1) 49.
Manganese, glasses, for radiation dosimeters, (8) 430. See also *Phase diagrams; Systems.*
Melting points, measurement, in system BaO–Fe_2O_3, (3) 151; of some metal oxides, (1) 2.
Metals. See also *Enameling metals.*
enamel-, systems, reaction kinetics, (5) 252.
fibers, as reinforcing in thoria, (9) 489.
oxides, apparent temperatures at melting points, measurement in solar furnace, (1) 1.
rare-earth and yttrium hard, structure and properties, (6) 287.
Mica, -kaolinite-quartz mixtures, comparison of reactions with K_2O–Al_2O_3–SiO_2 equilibrium diagram, (10) 511; -kaolinite-quartz mixtures, mineralogy and ceramic properties of, (2) 59.
Microscopes, design for high-temperature studies, (5) 246; electron, in study of mullite development in fired kaolinites, (7) 378; for high temperature studies, (3) 148.
Microscopy, carbon replica, of fractured surface of fused quartz and fused cristobalite, (12) 619.
electron, of glass surfaces, structural implications, (1) 4.
high-temperature, principles of, (5) 246.
in study of system BaO–Fe_2O_3, (3) 151.
thin section, cement for preparation, (5) 282.
Mineralogy, of fired clay samples, (2) 62.
Moisture, movement, and readsorption phenomena in dried clay articles, (11) 553.
Molybdenum, fibers, as reinforcing for thoria, (9) 489.
Mullite, data for absolute determination, (2) 63.
development in fired kaolinites, electron microscope study, (7) 378.
pure, calculations of lattice parameters for, (5) 273.
solid solution of TiO_2, Fe_2O_3, and Cr_2O_3 in, X-ray study, (5) 267.
X-ray, optical, and chemical data, (2) 69.
Mullitization, of kaolin, rate and temperature, (7) 341.

Neodymium, oxide, vaporization of, (5) 231. See also *Systems.*
Neutrons, transmission, in analysis of boron in borosilicate glasses, (5) 278.
Nickel, chromite, polycrystalline, oxygen mobility in, (9) 473.
ferrite, formation, effect of iron oxide particle size, (1) 48.
as metallic ion in enamels, (5) 260.
oxide, evaporation of Li_2O from solid solution of, (3) 171.
formation of solid solution of Li_2O in, (2) 117.
lattice parameter as function of Li_2O dissolved, (4) 225.
Niobates, Pb-Ba, electric properties, (11) 578.
Niobium. See also *Systems.*
in lead titanate ceramics, properties, (3) 119.
oxide, apparent temperature at melting point, (1) 2.
Nitrogen, liquid, aging of glass abrasions in, effect on strength, (3) 161.
Nuclear properties, of rare-earth hard metals, (6) 292.
Nucleation, subsolidus, and metastable liquid immiscibility, (12) 670.

Optical properties, of lead niobate ceramics, (9) 440; of $NaF \cdot BeF_2 \cdot 3ThF_4$ and $NaF \cdot BeF_2 \cdot 3UF_4$, (11) 609; of talc and tremolite, (1) 43.
Oxidation, data, for silicon and boron, (10) 498.
data, for sintered Si-B specimens, (10) 504.
resistance, of thoria reinforced with Mo fibers, (9) 492.
of SiC, effect of O partial pressures, (4) 209.
studies, of UO_2–ThO_2 solid solutions, (10) 520.
Oxygen. See also *Phase diagrams; Systems.*
adsorption, as cause of hydrophobicity of silicate glasses, (9) 485.
diffusion, coefficients, for polycrystal line $NiCr_2O_4$ and α-Fe_2O_3, (9) 473.
diffusion, from contracting bubbles in molten glass, (12) 655.
dilution by foreign gas in molten glass bubbles, (12) 661.
effect on sulfate retention by kaolin, (4) 181.
equilibrium dissociation pressures, (12) 625.
pressure, effect on oxidation rate of SiC, (4) 210.
stability, of UO_2–ThO_2 solid solutions heated in air, (10) 523.

Particles, size, graduation, effect on mean impact energy required to produce chipping in brick, (12) 651; size, of iron oxide, effect on nickel ferrite formation, (1) 48; size, of UO_2 specimens, effect on flexural strength, (12) 643.
Periclase, commercial, study of, (7) 343.
Permeability, of clay bodies during readsorption, (11) 557. See also *Porosity.*
Perovskite,-type compounds, in binary rare earth oxide systems, (2) 115.
Phase diagrams, for join $MgSiO_3$–$MnSiO_3$, (3) 134.
schematic, of ferrites, (9) 449.
of system, BaO–Fe_2O_3, (3) 151.
cryolite–alumina, determination by quenching methods, (2) 67.
Fe–O, (4) 205.
iron oxide–Cr_2O_3 in air, (4) 207.
FeO–MgO–Fe_2O_3, (4) 186.
La_2O_3–iron oxide, in air, (7) 369.
LiF–UF_4–ThF_4, (4) 214.
Li_2O–B_2O_3–SiO_2, (1) 24.
MgO–SiO_2, (3) 133.
Mg_2SiO_4–$MnSiO_4$, (3) 135.
MnO–SiO_2, (3) 133.
K_2O–Al_2O_3–SiO_2, part of, (10) 514.
UO_2–ZrO_2, proposed, (9) 446.
uranium–carbon, (2) 78.
ZnO–TiO_2, (3) 130.
Phonon, conduction, as cause of conductivity of sintered porous polycrystalline oxides, (11) 594.
Photomicrography, basic principles and practices, (5) 251.
Pickling, of normalized steel, as function of amount of cold work, (11) 568.
Piezoelectric properties, of Pb-Ba niobates, (11) 579.
Pipe, body, readsorption characteristics and surface area, (11) 557.
Platinum, foil, as replacement for Ag foil in study of relative acidities of glasses, (11) 574.

Porosity, apparent, analysis of data, (6) 286.
effect on flexural strength of UO_2 specimens, (12) 646.
Potassium, oxide. See *Phase diagrams; Systems.*
Pressing, hot, of Al_2O_3, (2) 55; hot, of fused silica, (10) 517.
Pressure, -temperature diagram for GeO_2, (6) 336.
Pyrolusite, -bixbyite reaction, (12) 622.

Quartz, fusion, (12) 615.
germania, α to β transition, (6) 336.
irradiated, trapped electrons in, I, (8) 396; II, (8) 399.
-kaolinite-mica mixtures, comparison of reactions with K_2O–Al_2O_3–SiO_2 equilibrium diagram, (10) 511.
-kaolinite-mica mixtures, mineralogy and ceramic properties of, (2) 59.
Si–O–Si angle and molar volume, (3) 170.
Quenching data, for system iron oxide–Cr_2O_3 in air, (4) 206; in system Li_2O–B_2O_3–SiO_2, (1) 26; for system ZnO–TiO_2, (3) 129.
Quenching rates, for glass disk, precalculation of, (6) 320.
Quenching techniques, for determination of cryolite–alumina phase diagram, (2) 66.

Radiation, coloring, of glass, application of growth curve theory to protection against, (8) 394; effects, application in glasses in low- and high-level dosimetry, (8) 426; energy, transfer, of ceramic oxides, (11) 594.
Radioactivity, ^{133}Xe, quantitative measurements from, (12) 635.
Rare earths, metals, structure and properties, (6) 287.
oxides, sintered, density of, (4) 201.
systems, binary, perovskite-type compounds in, (2) 115.
vaporization of, (5) 229.
Reactors, high-temperature, study of fluid fuels for, (4) 213.
Reflection, of alumina specimens, in study of lattice defects, (9) 482.
Refractive indices, of glasses in system MgO–MnO–SiO_2, (3) 137.
of metasilicate and olivine solid solutions, (3) 135.
of mullite, sillimanite, and andalusite, (2) 75.
Refractories, based on Si-B-O reactions, (10) 497.
cordierite, reaction sequence and structural changes in, (7) 337.
periclase, brick, spinel-bonded, technology of, (6) 292.
refractoriness, of spinel-bonded periclase brick, (6) 294.
Resistivity. See *Electric resistivity.*
Resonance, electron spin, in study of trapped electrons in irradiated quartz and silica, (8) 399.
Rupture, modulus of, effect of readsorption and redrying on, (11) 558; modulus of, fired and dry, analysis of data, (6) 285; modulus of, of reinforced thoria, (9) 491.
Rutile. See *Titania.*

Samarium, oxide, emissivity vs. temperature, (4) 203.
Selenium. See *Systems.*
Shrinkage, of calcined BeO compacts, (12) 629; drying and firing, analysis of data, (6) 286.
Silica. See also *Cristobalite; Phase diagrams; Quenching data; Systems.*
crystallization, on polished glass surfaces, (6) 306.
fused, hot pressing of, (10) 517.
infrared transmission, (11) 599.
synthesized impurity centers in, (8) 422.
gels, coprecipitated with alumina gels, factors affecting moisture expansion, (7) 361.
irradiated, trapped electrons in, I, (8) 396; II, (8) 399.
in presence of iron oxide, microstructure, (3) 140.
vitreous, Si—O—Si angle and structure, (3) 170.
Silicates, content, of periclases, effect of variation, (7) 346; tricalcium, determination of cell dimensions and interpretation of X-ray diffraction patterns, (4) 219.
Silicides, and disilicides, of rare earths, structure of, (6) 288.
Silicon, and boron, reaction in air, in forming refractory material, (10) 497.
carbide, oxidation, effect of O partial pressure, (4) 209.
carbide, reaction with UO_2 in He atmosphere, (3) 149.
reaction with UO_2 in He atmosphere, (3) 149.
tetraboride, formation and structure, (10) 550.
Sillimanite, X-ray, optical, and chemical data, (2) 69.
Silver, foil, replacement by Pt foil in study of relative acidities of glasses, (11) 574.
Sintering, atmosphere, effect on resistivity and temperature coefficient of $BaTiO_3$ systems, (6) 299.
behavior of UO_2 specimens, dependence on particle size, (12) 644.
data, for Si-B compositions, (10) 500.
data, for UO_2–ThO_2 solid solution heated in air, (10) 521.
theories of, (12) 627.
Slag, resistance, of spinel-bonded periclase brick, (6) 294.
Slip casting, aqueous, of MgO, (2) 114.
Sodium. See also *Systems.*
chloride, brittle-ductile transition temperature determinations, (6) 331.
fluoride, compounds, $NaF \cdot BeF_2 \cdot 3ThF_4$ and $NaF \cdot BeF_2 \cdot 3UF_4$, phases in, (11) 608.
Sodium (*continued*)
niobate, solid solution dielectrics based on, (7) 348.
Solids, -solid and solid-vapor reactions in system Mn–O, (12) 620.
Solutions, solid, formation from U_3O_8–ThO_2 mixtures, (10) 521.
from Fe_3O_4 to $0.4Fe_3O_4 \cdot 0.6CoFe_2O_4$, dissociation pressures of, (9) 448.
in system MgO–MnO–SiO_2, (3) 132.
in system UF_4–ThF_4 and LiF–UF_4–ThF_4, (4) 216.
of TiO_2, Fe_2O_3, and Cr_2O_3 in mullite, X-ray study of, (5) 267.
of UO_2 and ZrO_2, (9) 447.
Space-charge, development in glass, (4) 173.
Spalling, thermal, resistance of spinel-bonded periclase brick, (6) 295.
Specific gravity. See *Density.*
Spectra, absorption, of glass, resolution into individual bands, (8) 391; infrared absorption, of α-cristobalite, α-quartz, and fused quartz, (12) 618; vibrational, of vitreous $B_2O_3 \cdot xH_2O$, (6) 326.
Spectrometers, γ-ray, schematic drawing, and curve from, (12) 636.
Spinels, $FeAl_2O_4$, free energy of formation in range 1550° to 1700°C., (11) 585; $MgO \cdot Al_2O_3$, as bond for periclase brick, (6) 296.
Steel. See also *Enameling metals.*
hydrogen absorption by and desorption from, (11) 566.
stainless, forsterite-, laminates, thermal conductivity of, (11) 560.
stainless, thermal conductivity data, (2) 84.
Strength, of abraded glass under controlled ambient conditions, (3) 160.
flexural, of irradiated glass specimens, (8) 406.
flexural, of specimens from uranium dioxide powders, dependence on porosity and grain size and effect of titania additions, (12) 641.
tensile, of plate and sheet glass, indentation study, (2) 86.
Stress, distribution, calculation in elastically indented glass, (2) 88; plastic yield, of MgO single crystals, temperature dependence, (10) 526; in solidifying glass disk, (6) 322.
Strontium, in solid solution, effect on inversion of α- to β-$CaSiO_3$, (1) 52. See also *Systems.*
Structure, effect on expansion in alkali silicate binary glasses, (1) 14; micro-, of MgO–Ni cermet, (12) 637; micro-, of silica in presence of iron oxide, (3) 140.
Sublimation, of Cr_2O_3 at high temperatures, (10) 509; of Li from Li-Ni ferrite, (10) 549.
Sulfates, retention by fired clay products, (4) 179.
Sulfur. See *Systems.*
Surface, area, of kaolinite, determination using glycerol adsorption, (12) 671.
area, relation to exchange capacity of kaolinite, (1) 44.
fractured, of glass, electron microscopy of, (1) 4.
structure, in corundum, I, (9) 458.
tension, variations calculated with improved approximation for activity coefficient, (7) 386.
Synthesis, of manganoxide, (12) 622; of refractory material by reacting Si and B in air, (10) 497.
Systems, As–Tl–S, As–Tl–Se, and As–Se–S, low-melting glasses in, (5) 274.
BaO–Fe_2O_3, phase diagram, (3) 151.
CdF_2–$CdCl_2$, phase relations in, (11) 593.
CaO–TiO_2–SiO_2, region of liquid immiscibility, (4) 194.
$CaSiO_3$–$SrSiO_3$, subsolidus study, (1) 52.
Dy_2O_3–Al_2O_3, data on, (3) 155.
Dy_2O_3–CeO_2, data on, (3) 156.
Dy_2O_3–Nb_2O_5, data on, (3) 156.
Dy_2O_3–UO_2, data on, (3) 157.
Dy_2O_3–ZrO_2, data on, (3) 158.
iron oxide–Cr_2O_3, phase relations, (4) 204.
iron oxide–Cr_2O_3–SiO_2, phase equilibria in, (10) 531.
FeO–Fe_2O_3–SiO_2, oxidation levels, (3) 141.
FeO–MgO–Fe_2O_3, phase equilibria in ferrite region, (4) 183.
iron oxide–TiO_2–SiO_2, phase relations at liquidus temperatures in air, (11) 586.
La_2O_3–iron oxide, phase equilibria in air, (7) 367.
$PbTiO_3$–$Pb_{0.5}NbO_3$, and $PbTiO_3$–$Pb_{0.5}TaO_3$, properties of solid solution ceramics in, (3) 119.
LiF–$CdCl_2$, phase relations in, (11) 592.
LiF–UF_4–ThF_4, phase equilibria in, (4) 213.
Li_2O–Al_2O_3–TiO_2, compatible phases at various temperatures, (12) 611.
Li_2O–B_2O_3–SiO_2, phase relations study by quenching and solid-state reactions, (1) 23.
Li_2O–B_2O_3–SiO_2, region of liquid immiscibility, (4) 193.
Li_2O–TiO_2–SiO_2, region of liquid immiscibility, (4) 193.
MgO–La_2O_3–TiO_2 and MgO–Nd_2O_3–TiO_2, compositional diagram for bodies in, (11) 609.
MgO–MnO–SiO_2, equilibrium diagram for, (3) 136.
MgO–SiO_2–H_2O, below 300°C., I, (10) 542.
Mn–O, solid-solid and solid-vapor reactions and new phase, (12) 620.
NaCl–$CdCl_2$, phase relations in, (11) 593.
NaF–AlF_3–CaF_2–Al_2O_3, liquidus curves in, (8) 437.
NaF–$CdCl_2$, phase relations in, (11) 593.
$NaNbO_3$–$BaTiO_3$, $NaNbO_3$–$SrTiO_3$, and $NaNbO_3$–$SrTaO_3$, properties of, (7) 348.
Na_2O–Al_2O_3–SiO_2, Na_2O–TiO_2–SiO_2, and K_2O–Al_2O_3–SiO_2, relative acidities of glasses in, (11) 573.
ThO_2–UO_2, solid solution phases in, (5) 238.
uranium–carbon, high-temperature X-ray diffraction study, (2) 77.
UF_4–ThF_4, phase equilibria in, (4) 213.
UO_2–ThO_2, formation of nonstoichiometric solid solutions in, (10) 520.
Systems (*continued*)
UO_2–ZrO_2, proposed phase diagram for, (9) 446.
ZnO–TiO_2, phase equilibria in, (3) 125.
ZrO_2–HfO_2, monoclinic-tetragonal inversion in ZrO_2, (5) 236.
ZrO_2–ThO_2, low-temperature phase assemblages in, (5) 237.
ZrO_2–UO_2, data on, (5) 238.

Talc, structural relation to tremolite, (1) 34; -tremolite relations, optical study, (1) 42.
Tantalum, in lead titanate ceramics, properties, (3) 119.
Tellurium. See *Systems.*
Temperature, apparent, measurement at melting points of metal oxides in solar furnace, (1) 1.
Curie, of $BaTiO_3$, lowering by chemical reduction, (4) 226.
dependence, of dielectric constant of $2BaNb_2O_6$–$Ba(Nb_{0.5}Fe_{0.5})O_3$, (3) 169.
of growth processes in glass devitrification, (2) 116.
of plastic yield stress of MgO single crystals, (10) 525.
effect on Ba Zr metaniobate, (2) 106.
effect on expansion of alkali silicate binary glasses, (1) 11.
effect on stress-strain behavior of MgO, (7) 374.
pressure-, diagram for GeO_2, (6) 336.
as variable in liquidus curves in system NaF–AlF_3–CaF_2–Al_2O_3, (8) 437.
Testing, apparatus, for high-temperature infrared measurements, (11) 598; equipment, for measuring impact energy required to chip brick specimens, (12) 649.
Thermal analysis, differential, correlation with TGA temperatures in decomposition reactions, (1) 53.
in determination of mineralogical transformations in gypsum, (4) 227.
of hydrated magnesium silicates and talc, (10) 547.
of raw materials and mixture for cordierite refractories, (7) 340.
of single crystal Ba Zr metaniobate, (2) 108.
of tricalcium silicates, pure and solid solution, (4) 222.
Thermal properties, of sulfide glass systems, (5) 275.
Thermistors, positive temperature coefficient, processing of, (6) 297.
Thermogravimetric analysis, correlation with DTA temperatures in decomposition reactions, (1) 53.
Thoria, reinforced by metal fibers, physical properties of, (9) 489.
Thorium, oxide, tetravalent, composition limits, (5) 239. See also *Phase diagrams; Systems; Thoria.*
Time, dependence, of NiO–Li_2O solid solution formation, (2) 117.
Titania. See also *Phase diagrams; Quenching data; Systems.*
effect on strength of UO_2 specimens, (12) 646.
mullite-, solid solutions, (5) 270.
new trirutile compound, (9) 495.
Titanium, oxide, apparent temperature at melting point, (1) 1.
Toughening, nonuniform, of glass disk, (6) 313.
Transition temperatures, brittle-ductile, in ionic crystals, (6) 330.
Transpiration, studies, of Cr_2O_3, (10) 510.
Tremolite, structural relation to talc, (1) 39; talc-, relations, optical study, (1) 42.
Tridymite, growth, in iron oxide-silica liquid, (3) 143.

Uranium. See also *Phase diagrams; Systems.*
dicarbide, high-temperature cubic phases, (9) 493.
dioxide, powders, flexural strength of specimens from, (12) 641.
dioxide, reaction with Si and SiC in He atmosphere, (3) 149.
oxide, cleavage, (4) 228.
oxide, tetravalent, composition limits, (5) 239.

Vanadium, glasses, for radiation dosimeters, (8) 432.
Vaporization, of rare-earth oxides, (5) 229.
Viscosity, of fused silica, vs. temperature, (10) 519; gradients, effect on flow through open channels, (2) 97.
Volatility, of lead silicate and lead borate binary melts, (10) 505.

Water. See also *Systems.*
content, effect on corrosion of borosilicate glass, (7) 356.
content, effect on vitreous B_2O_3, (7) 356.
vapor, effect on sintering of BeO, (12) 628.
Wollastonite, temperature-composition relations between α- and β- solid solutions, (1) 53.

Xenon, ^{133}Xe, activation energy for diffusion through MgO–Ni cermet compacts, (12) 634.
X rays, analysis, of $BaCO_3$–Fe_2O_3, mixtures, (3) 151.
calibration curve, for enamel samples, (5) 253.
data, of samples in system FeO–MgO–Fe_2O_3, (4) 186.
diffraction, high temperature, of pure tricalcium silicate, (4) 221.
diffraction data, for $BaTiGe_2O_6$ at room temperature, (11) 610.
for lead compounds, I, (9) 454.
for manganoxide, (12) 622.
of phase (I) of magnesium silicates, (10) 547.
diffraction patterns, of crystalline and fused powder quartz, (12) 618.

X rays (*continued*)
diffractometric scattering measurements, of B_2O_3–H_2O glasses, (7) 353.
powder diffraction data, for compound Li_2O–Al_2O_3·$4TiO_2$, (12) 614.
for compounds $NaF·BeF_2·3ThF_4$ and NaF–$BeF_2·3UF_4$, (11) 609.
for crystalline phases in join $MgSiO_3$–$MnSiO_3$, (3) 138.
for $LaFe_{12}O_{19}$, (7) 370.
for rutile- and trirutile-type compounds, (9) 496.
for SiB_4, (10) 501.
for talc, (1) 34.
study, of gypsum, (4) 227.
of phase transitions in ferroelectric $PbNb_2O_6$, (9) 439.
of planar cleavage faces of UO_2, (4) 228.
of solid solution of TiO_2, Fe_2O_3, and Cr_2O_3 in mullite, (5) 267.

Young's modulus. See *Elasticity.*

Yttrium, hard metals, structure and properties, (6) 287; iron garnets, single crystals, growth by flame fusion, (1) 17; oxide, vaporization of, (5) 231.

Zinc, oxide. See *Phase diagrams; Quenching data; Systems.*
Zirconia, substitution for TiO_2 in opaque glasses, (4) 196.
Zirconium, oxide, tetravalent, composition limits, (5) 239. See also *Phase diagrams; Systems.*

Phase Diagrams for Ceramists

ERNEST M. LEVIN, HOWARD F. McMURDIE, and F. P. HALL. Edited and published by The American Ceramic Society, 1956. 286 pp. Price to members $5. Price to non-members $10.

This basic volume of phase equilibrium diagrams of interest to ceramists, has in addition to 811 diagrams, a general discussion of the phase rule and its terminology. This includes a glossary of some 50 terms peculiar to the phase rule, a comparison of the three important temperature scales in degrees centigrade that have been used since 1914, methods of determining the composition of phase assemblages, the interpretation and representation of multicomponent systems, and a selected and annotated bibliography on the various aspects of phase research. This latter covers theory, interpretation, method and techniques, mathematical treatment, thermodynamic calculations, silicate chemistry, and phase diagrams in related fields.

Phase Diagrams for Ceramists – Part II

ERNEST M. LEVIN and HOWARD F. McMURDIE. Edited and published by The American Ceramic Society, 4055 N. High St., Columbus 14, Ohio. 153 pp. Price to members $5. Price to non-members $8.

Written as a supplement to the preceding volume, described above, this book adds 462 phase equilibrium diagrams to the fund of knowledge for ceramic scientists and engineers. Combined with the 811 diagrams contained in "Phase Diagrams for Ceramists," this makes readily available 1273 phase diagrams.

The index to Part II is cumulative, covering both of these volumes.

Part II diagrams cover (a) metal oxide systems, (b) systems containing non-metal oxides, (c) systems containing halides, sulfides, etc., and (d) water-containing systems. Many of the diagrams deal with electronic ceramics and nuclear ceramics.

Large Scale Phase Diagrams of Oxide Systems

A new series of ten large scale phase equilibrium diagrams of oxide systems is now available from The American Ceramic Society. The diagrams are the work of Dr. E. F. Osborn and Dr. Arnulf Muan of The Pennsylvania State University. For basic data they have drawn upon the published works of many scientists. Each diagram lists principal literature references, providing sources for additional information.

Each diagram is on a 500 millimeter equilateral triangle, with a scale accurate enough to permit interpolation to within 0.1%. The base triangle, printed in light blue, has 5 mm. divisions, each representing 1% in composition. Temperature contours are in green, compositions in red, and boundary curves and primary phases in black. Each is printed on map paper and measures $23^1/_4 \times 19^1/_2$ inches.

The ten systems:

1. CaO–Al_2O_3–SiO_2
2. CaO–MgO–SiO_2
3. MgO–Al_2O_3–SiO_2
4. NaO–Al_2O_3–SiO_2
5. K_2O–Al_2O_3–SiO_2
6. FeO–Fe_2O_3–SiO_2
7. CaO–FeO–SiO_2
8. MgO–FeO–SiO_2
9. FeO–Al_2O_3–SiO_2
10. CaO–Fe_2O_3–SiO_2

Cost of the diagrams is $2 each or $15 for the complete set of ten. Orders should be addressed to The American Ceramic Society, 4055 N. High St., Columbus 14, Ohio.

CERAMIC ABSTRACTS

December 1, 1960 *SECTION*

Compiled by the American Ceramic Society

AUTHOR INDEX FOR 1960

The reference number in parentheses refers to the monthly issue of *Ceramic Abstracts;* the number following is the page number. The letter B or P preceding the reference number indicates an abstract of (B) a book, bulletin, or separate publication or (P) a patent. The italic letter following the page number indicates the position of the abstract on the page.

Aagaard, L., and Espenschied, H. Method for making titanium boride from phosphates, P (8) 192*i*.

Aamot, O. C. Metallurgical process and apparatus, P (8) 198*g*.

Aasbö, L. J. See Schjelderup, G.

Abberley, M. W. Machines for lining and banding and for stamping, (9) 213*f*.

Abou-el-Azm, A., and Ashour, G. Infrared transmission measurements of a selected number of silicate, borate, and cabal glasses in relation to their structure, (1) 5*a*. Limiting compositions in silicate glasses, (3) 56*i*.

Abrasive & Metal Products Co. Abrasives, P (9) 203*g*. P (10) 225*e*.

Accumulatoren-Fabrik A.-G. Electrode arrangement, P (1) 6*k*.

ACF Industries, Inc. Module wafer support for electrical components, P (3) 66*i*.

Ackerman, R. J., Thorn, R. J., and Winslow, G. H. Visible and ultraviolet absorption properties of uranium dioxide films, (6) 149*c*.

Ackerman, R. M. Automatic welding fixture for crusher rollers, P (4) 99*c*.

Adams, J. E. See Kirkham, D.

Adams, R. V., and Douglas, R. W. Infrared studies on various samples of fused silica with special reference to the bands due to water, (2) 31*d*.

Adcock, D. S., Drummond, J. E., and McDowall, I. C. Pyroplastic index and firing deformation of ceramic bodies, (1) 11*d*.

Adler, R. M. See Schwuttke, G. H.

Adolf, C. See Singer, E.

Aerojet-General Corp. Apparatus for drying or heating granular material, P (8) 196*c*.

Affleck, J. H., III. See De Santis, V. J.

Agamawi, Y. M., and White, J. Quaternary system $CaO–Al_2O_3–TiO_2–SiO_2$ (II) ternary system calcium metasilicate–sphene–silica; (III) quaternary system calcium metasilicate–anorthite–sphene–silica, (7) 177*a*.

Aga-Oglu, K. Russian excavations of Chinese ceramics in Transcaucasia, (1) 2*c*. So-called "Swatow" ware—types and problems of provenance, (1) 2*a*. See Shelkovnikov, B. A.

Agfa A.-G. Magnetic impulse record carriers, P (10) 238*d*.

Agie. See Aktiengesellschaft für industrielle Elektronik.

Agrell, S. O., and Smith, J. V. Cell dimensions, solid solution, polymorphism, and identification of mullite and sillimanite, (3) 73*c*.

Aguilera, J. G. Kaolins of the Yexthó land (Hidalgo), (2) 44*h*.

Aguilera Herrera, N. Clays of some Campeche calcareous sediments, (2) 44*c*.

Ahlberg, J. E., and Simpson, E. A. Preparation of silica sols, P (1) 19*d*.

Ahlburg, H., and Heil, H. Forming patterned phosphor screens in post acceleration cathode ray tubes, P (11) 255*c*.

Aiazzi, G. Grinding, (2) 41*d*.

Aiba, T. See Watanabe, M.

Ainger, F. W., and Herbert, J. M. Development of hexagonal and imperfect tetragonal structures in $BaTiO_3$, (7) 171*f*.

Aitchison, R. B. Rotatable kiln having replaceable clinker ring section, P (1) 16*h*.

Aitken, A., and Taylor, H. F. Hydrothermal reactions in lime-quartz pastes, (5) 106*h*.

Aitken, M. J. Detecting archeological remains, (3) 52*c*.

Aiyama, Y. See Iida, S.

Akh'yan, A. M. Optical method for determining the quality of glaze surfaces, (10) 236*h*.

Akobjanoff, L., and Howe, E. D. Distribution, shape, and size of pores in capillary ultrafilters, (5) 124*i*.

Aktiebolaget Atomenergi. Electrostatic precipitator, P (11) 265*a*.

Aktiebolaget Bahco. Centrifugal wind classifiers P (6) 146*h*.

Aktiebolaget Bofors. Liners for ball and tube mills, P (11) 265*h*.

Aktiebolaget Kanthal. Electrically conductive element for use at elevated temperatures, P (10) 234*j*. Flame spraying method and composition, P (10) 226*j*.

Aktiebolaget Svenska Fläktfabriken. Collecting electrode for electrofilter, P (11) 265*i*. Collecting electrode of the hollow box type for electrofilters, P (9) 216*a*. Turbulent pneumatic driers for granular and pulverulent material, P (2) 42*f*.

Aktiebolaget Svenska Kullagerfabriken. Charging apparatus for shaft furnaces, P (1) 16*c*.

Aktiengesellschaft für industrielle Elektronik. Electroerosive grinding method and device, P (5) 118*f*. Method of detaching material by electric erosion, P (1) 21*f*.

Aktiengesellschaft Kuhnle, Kopp & Kausch. Method of rendering porous graphite body impervious to fluids, P (5) 114*h*.

Aktieselskabet Årdal og Sunndal Verk. Process for the protection of carbon electrodes for electric furnaces, P (11) 261*a*.

Albers-Schoenberg, E. Sources of modern ceramics, (5) 129*i*.

Albert, C. G., and Wilcox, J. R. Surface modified kaolin clay, P (11) 269*j*.

Alberti, K. Determination of the yield of quicklime by the microslaking method, (3) 53*b*.

Albrecht, G. Classification of fine-grained dielectric powders in electric fields, (2) 39*e*.

Albrecht, H. O., and Mandeville, C. E. Storage of energy in beryllium oxide, (2) 47*j*.

Aldinger, R. Material and construction faults in enameled ware, (3) 55*j*.

Aldred, F. H., Elliott, A., and Cowling, K. W. Laboratory tests of the abrasion resistance of refractories, (3) 60*g*.

Aldred, F. H., and White, A. E. S. Some equipment for ceramic research, (7) 178*j*.

Alègre, R. Ash rings in rotary cement kilns, (3) 52*i*.

Alègre, R., and Terrier, P. Microscopic study of [cement] clinkers at the Centre d'Études des Liants Hydrauliques, (3) 54*h*. Reduced scale rotary kiln, (5) 107*g*.

Aleixandre Ferrandis, V., Estrada, D. A., and Sánchez Conde, C. Effects of titania and lime on physical properties of borate-phosphate glasses, (2) 31*b*.

Aleksandrov, A. P. Manufacture of curved automobile glass by the softening method, (1) 5*d*.

Aleksandrova, T. A. Stoppers and runner brick from dunite and talc magnesite, (1) 9*b*.

Alekseeva, A. N. Use of luminescence analysis for investigating refractories, (2) 37*a*.

Alexander, A. E. See McCartney, E. R.

Alexander, G. B. Silica organosols, P (6) 147*b*.

Alexander, G. B., Iler, R. K., and Sears, G. W. Potassium silicate solutions and their preparation, P (8) 199*b*.

Alexander, G. B., Yates, P. C., and West, S. F. Reinforced heat resistant refractory-metal alloys, P (11) 261*c*.

Alexander, H. M., and Gwyn, J. D. Method of bending and cutting sheets of glass, P (8) 190*a*.

Alexander, K. Siegmund Schütz—a Berlin relief artist of the Berlin State Porcelain Factory, (6) 132*b*.

Alexander, K. M. Strength of the cement-aggregate bond, (9) 204*i*.

Alexander, K. M., and Wardlaw, J. Dependence of cement aggregate bond strength on size of aggregate, (10) 225*i*. Effect of powdered minerals and fine aggregate on the drying shrinkage of Portland cement paste, (3) 53*i*.

Alexander, M. R. See Miller, W. H.

Alexander, N. E. See Appel, A. V.

Alexander, P. P. Preparation of titanium nitride of high purity, P (7) 161*f*.

Allegheny Ludlum Steel Corp. Refractory brick, P (8) 193*d*.

Allen, A. W., and Herron, R. H. Friction article, P (11) 260*i*.

Allen, E. Convenient color indices for near-white samples, (4) 83*i*.

Allen, E. M. Method of preparing a finely divided alumina-silica pigment, P (6) 146*e*. Method of preparing pigments, P (7) 167*a*. Method of producing silica, P (4) 100*b*. Paper pigments, P (10) 242*g*. Silica composition, P (3) 72*e*, P (10) 242*h*.

Allen, L. R., and Woodard, D. H. Lapping compound, P (11) 250*a*.

Allen, W. A. Modern multistory factories—a discussion of their design, (1) 22*e*.

Allgeyer, G. H. See McLaughlin, J. E.

Allianceware, Inc. Bathtub, P (5) 106*c*.

Allied Chemical Corp. Hydraulic cement-polyurethane compositions useful for coating, sealing, patching, and surfacing, P (2) 29*a*.

Allied Mills, Inc. Bulk material unloader [for boxcars], P (10) 241*g*.

Allis-Chalmers Mfg. Co. Screening device, P (4) 96*d*. Vibrating grinding mill having a means for preventing grinding media tracking and excessive mill wear, P (4) 100*g*.

Allison, A. G. Slip casting method, P (2) 37*f*.

Allison, E. B. See Murray, P.

Allison, E. B., Brock, P., and White, J. Rheology of aggregates containing a liquid phase with special reference to the mechanical properties of refractories at high temperatures, (6) 139*b*.

Allison, E. B., and Taylor, J. $\gamma \rightarrow \alpha$ transition in zirconia solid solutions with lime and magnesia, (7) 173*j*.

Al-Marachy, P. F. Apparatus for effecting chemical reactions on glass plates, P (4) 102*j*.

Altimier, D. F., and Doubt, C. J. Rotary kiln, P (7) 166*f*.

Aluminum Co. of America. Castable refractory, P (4) 89*f*. Hollow cores for making castings, P (3) 58*g*.

Alviset, L. Efflorescence, (1) 7*h*.

Alviset, L., and Liger, C. Rehydration of dry clays and the resulting size variation, (5) 118*h*.

Alvord, G. D. Heated liner for trough feeders, P (11) 265*b*.

American Brake Shoe Co. Grinding mills, P (8) 196*d*. Hammer [for a rotary mill] with removable tip, P (10) 241*g*.

American Cyanamid Co. Apparatus for extracting particle size data, P (9) 216*i*. Etching of barium glass, P (2) 33*b*. Filtration of titania hydrate, P (9) 218*f*. Method for assembling ceramic plug to lead wires for electric blasting caps, P (4) 91*e*. Preparation of desulfurization catalysts, P (5) 121*h*.

American Instrument Co., Inc. Humidity control device, P (10) 240*f*. Relative humidity measuring apparatus, P (4) 97*e*.

American Lava Corp. Barium titanate insulators, P (4) 93*b*.

American Machine & Foundry Co. Glass fiber dispersions, sheets, plastic impregnated sheets, and methods of forming, P (3) 58*j*.

American-Marietta Co. Hydraulic cement compositions, P (7) 155*b*.

American Optical Co. Absorptive glasses, P (4) 85*i*. Apparatus and method of forming ophthalmic lenses, P (8) 188*j*. Glass compositions, P (2) 33*b*. Lens surfacing machines, P (5) 112*d*. Ultrasonic lens generators, P (10) 231*c*.

American Potash & Chemical Corp. Continuous electrothermic production of boric oxide, P (1) 18*b*. Preparation of metal borides and silicides, P (9) 212*d*. Process for extracting rare earths from ores and residues, P (1) 19*b*.

American Smelting and Refining Co. Block graphite mold for continuous casting, P (11) 260*c*.

American Society for Metals, Metals Handbook Committee on Alkaline Cleaning. Alkaline cleaning of metals (I) cleaner formulations and cycles, (4) 83*g*.

American Society for Testing Materials. Book of ASTM Standards, 1958 (part 4) cement, concrete, mortars, road materials, water-proofing, soils; (part 5) masonry products, ceramics, thermal insulation, acoustical materials, sandwich and building constructions, fire tests, B (2) 49*d*.

American Society for Testing Materials, Committee E-1 on Methods of Testing. Symposium on Microscopy, B (5) 130*i*.

American Window Glass Co. Apparatus for drawing sheet glass, P (3) 57*h*. Glass cutter trolley unit, P (10) 230*b*. Manufacture of sheet glass, P (7) 158*j*.

Ames, L. L. See Sand, L. B.

Ames, L. L., and Sand, L. B. Factors affecting maximum hydrothermal stability in montmorillonites, (3) 74*d*. Halloysite formed in a calcareous hot spring environment, B (9) 223*h*. Hydrothermal synthesis of wairakite and calcium mordenite, (3) 75*f*.

Amil, A. R. See Ruiz Amil, A.

Amphlett, C. B. Ion exchange in clay minerals, (8) 200*g*.

Amphlett, C. B., and Jones, P. J. Resistance to leaching of some glasses and ceramics containing strontium, (4) 85*g*.

Anaconda Co. Production of alumina, P (11) 269*a*. Production of silica-free alumina, P (11) 269*g*.

Anchor Hocking Glass Corp. Article spacing mechanism, P (10) 230*b*. Container handling mechanism, P (7) 158*e*. Mold grab, P (3) 59*g*.

Anders, H. Conducting glass, (7) 156*b*.

Andersen, J. C. Method of making refractory bodies, P (10) 235*f*.

Andersen, J. W. Method for chlorinating titanium oxide material, P (9) 218*i*.

Anderson, E. E. Some electrical and magnetic properties of garnets, (1) 13*d*. See Cantlin, J. H.; Cunningham, J. R., Jr.; McDuffie, G. E., Jr.

Anderson, E. P. Temperature measuring device, P (7) 166*c*.

Anderson, J. H. See Holzman, G. R.

Anderson, J. R. Ferroelectric storage array, P (3) 66*a*.

Anderson, J. R., and Remeika, J. P. Barium titanate as a ferroelectric material, P (4) 92*j*.

Anderson, L. B. See Foust, A. S.

Anderson, P. W. Ordering and antiferromagnetism in ferrites, (11) 263*g*.

Anderson, S., and Kimpton, D. D. Some phenomena related to the hydrophobicity of silicate glasses and adsorbed oxygen, (10) 229*h*.

Anderson, T. H. Well engineered electric power distribution for quarries and mines (I), (3) 71*c*; (II), (4) 98*h*.

Andersson, H., and Uhrus, L. O. Charging apparatus for shaft furnaces, P (1) 16*c*.

Andrade, E. G. de. See Goulart de Andrade, E.

Andreev, N. S. See Poral-Koshits, E. A.

Andrés, F. de. Wetting of Spanish refractory materials by molten glass, (3) 62*b*. See Cierva, P. de la.

Andres, F. H., and Richardson, J. H. New cement for preparation of ceramic thin sections, (6) 148*i*.

Andrew, J. E. Statistical investigation into factors affecting the life of ladle linings, (1) 9*h*.

Andrews, K. W., and Johnson, W. New method for the determination of grain or crystallite size from spotty diffraction rings, (7) 175*f*.

Angeleri, F. B. Raw materials and the Brazilian ceramic industry, (5) 129*h*.

Angenot, P. See De Geyndt, E.

Ångström, A. K., and Drummond, A. J. Transmission of "cutoff" glass filters employed in solar radiation research, (2) 32*g*.

Anpis, R. L. Chemical apparatus, P (11) 265*g*. Method of producing finely divided $CaCO_3$, P (10) 241*i*.

Antal, J. J., Weiss, R. J., and Dienes, G. J. Long wave length neutron transmission as an absolute method for determining the concentration of lattice defects in crystals, (10) 244*g*.

Anthony, B. F. Apparatus for and method of providing a protective lining on a hot top, P (10) 234*h*.

Anthony, M. L., and Virkus, R. M. Cutting apparatus and manufacture thereof, P (1) 1*g*.

Antonova, E. A. Enameling steel and iron ware in Chinese plants, (8) 186*j*.

Aoki, S. See Nakahara, M.

Apcar, H. V. Structural loading in factories, (7) 183*f*.

Apel, S. Apparatus for automatic and continuous control in mechanical drawing of tubes and rods, (3) 56*c*.

Appel, A. V., Betz, H. T., Fisher, M. A., Fochtman, E. G., Katz, S., Lieberman, A., Alexander, N. E., Murphy, J. L., Maxwell, D. C., and Lewis, R. E. Apparatus for automatically counting and sizing airborne particles, P (6) 144*g*.

Appleberry, C. M., Jr. See Seats, P.

Applied Physics Corp. Raman spectrophotometer, P (10) 246*b*.

APRA Precipitator Corp. Horizontal plane purge for precipitator, P (4) 95*g*. Purge system for electrostatic precipitator, P (9) 216*d*.

Arai, Y., Takenouchi, H., and Nagai, S. Mechanism of absorption of sulfur dioxide by quicklime (I) reaction between CaO and SO_3, (7) 154*e*.

Arai, Z. See Noguchi, C.

Aramaki, S., and Roy, R. Mullite-corundum boundary in the systems MgO–Al_2O_3–SiO_2 and CaO–Al_2O_3–SiO_2, (1) 20*h*. Revised equilibrium diagram for the system Al_2O_3–SiO_2, (7) 178*f*.

Arbeit, P. Method of and apparatus for making glass, P (6) 136*d*.

Arbocus, G. R. Synthetic high temperature lubricant solves kiln car lubrication at A. P. Green, (10) 240*f*.

Archambault, M., MacEwan, J. U., and Olivier, C. A. Method of producing lithium sulfate from beta spodumene, P (6) 146*g*.

Archer, J. E. See Rich, D. C.

Archer, L. F. Safety device for [pneumatically controlled] press, P (11) 266*c*.

Architectural Tiling Co., Inc. See Ferro Corp.

Arellano, A. R. V. Mines of Santa Rosa and vicinity (Pate, Tecozautla, Hgo.), (2) 44*b*.

Arend, A. G. Glass for thermometer production, (11) 254*a*.

Argon, A. S., Hori, Y., and Orowan, E. Indentation strength of glass, (3) 56*e*.

Argyle, J. F., and Hummel, F. A. Dilatometric and X-ray data for lead compounds (I), (10) 243*j*.

Aristov, G. G. See Strelov, K. K.

Ariya, S. M., Morozova, M. P., Vol'f, E., and Grossmann, G. Forms of mixed thermodynamically stable binary compounds of elements of the supplementary subgroups, (9) 219*j*.

Arkley, R. J. See Kelley, F. R.

Arkoosh, G. T., Miller, J. S., and Culler, G. D. Magnetic filter, P (9) 216*d*.

Armitage, E. L. Stained Glass: History, Technology, and Practice, B (10) 248*g*.

Armond, J. W. Purification of argon, P (5) 122*f*.

Armour Research Foundation of Illinois Institute of Technology. Ceramic coated golf club head, P (3) 55*g*. Fine particle production, P (1) 18*c*. Method and compositions for flame spraying, P (2) 30*g*.

Armstrong, J. E. See Fitch, F. T.

Armstrong Cork Co. Method of making a foamed and expanded product from volcanic glass, P (11) 256*j*.

Arndt, U. W., Faulkner, T. H., and Phillips, D. C. Diffractometers, P (7) 166*a*.

Arnold, R. Recent investigations on graphite, (2) 36*c*.

Arnold, W. Feeding devices for finely divided materials, P (5) 118*g*.

Arpin, D. J., and Arpin, J. J. Quick setting cementitious composition, P (5) 108*c*.

Arpin, J. J. See Arpin, D. J.

Artman, J. O. Microwave resonance relations in anisotropic single-crystal ferrites, (4) 92*j*.

Asahara, J. See Munakata, M.

Ashbrook, A. W. Spectrophotometric determination of microgram quantities of molybdenum in uranium trioxide using dithiol, (4) 101*j*.

Ashby, G. E., and Kellagher, R. C. Apparatus for the study of thermoluminescence from minerals, (3) 73*a*.

Ashford, J. R. Some statistical aspects of dust counting, (6) 149*i*.

Ashley, J. See Ward, W. M.

Ashour, G. See Abou-el-Azm, A.

Ashwill, R. E., and Kapp, N. M. Moving-bed vapor-phase treatment of kaolin clays, P (7) 167*c*.

Asplin, J. G. Mortar and pestle, P (2) 48*j*.

Associated Portland Cement Manufacturers, Ltd. Apparatus for the manufacture of Portland cement, lime, etc., P (11) 251*j*. Paints based on Portland cement, P (8) 186*f*.

Aston, J. See Emblem, H. G.

Atkeson, F. V. Apparatus for treating glass, P (5) 111*e*. Electric furnace control method, P (7) 158*i*.

Atkins, P. A., and Setterington, R. A. Thermistors—application in temperature measurement and control, (2) 43*b*.

Atkinson, F. M., Paulsen, A. L., and Mattson, D. F. Suction-pressure unloading system, P (11) 266*c*.

Atkinson, G. H. Method of densifying and pelletizing alkaline earth metal silicates, P (8) 198*h*.

Atkinson, R. H. Method for lamp manufacture, P (4) 87*j*.

Atkinson Bulk Transport Co. Suction-pressure unloading system, P (11) 266*c*.

Atlas, L. M., and Firestone, R. F. Application of thermoluminescence and reflectance methods to study of lattice defects in alumina ceramics, (10) 243*f*.

Atou, Y. See Fujimura, R.

Atou, Y., and Fujimura, R. Radioactive self-luminous compounds (II) simple method for determination of β-radioactivity of microcurie order in self-luminous compounds, (3) 65*c*.

Audio Devices, Inc. Production of ferromagnetic iron oxide, P (1) 19*e*.

Augsburger, H. M. Means of controlling electric currents in a furnace forehearth, P (5) 112*e*. Means for neutralizing current in glass withdrawn from electrically heated furnace, P (8) 189*f*.

Auld, I. Pottery in Iraq, (7) 154*a*.

Ault, G. M. See Hehemann, R. F.

Ault, N. N., and Milligan, L. H. Alumina radomes by flame-spray process, (1) 7*j*.

Aune, Q. A., Caraway, W. H., Morris, F. C., and Gates, G. L. Evaluation of a California bentonitic clay for use in oil-well drilling muds, (3) 70*h*.

Austin, J. F. See Baker, C. L.

Austin, O. K. Water spray in pellet mills [for carbon black], P (11) 270*a*.

Australia, Commonwealth of. Coating surfaces by employing an electrostatic field, P (1) 4*a*. Producing scales, patterns, etc., in glass, P (7) 159*c*.

Avenhaus, W. Firing progress and output in relation to density of setting in continuous ceramic kilns, (8) 190*e*.

Averbach, B. L., Felbeck, D. K., Hahn, G. T., and Thomas, D. A. (editors). Proceedings of an International Conference on Atomic Mechanisms of Fracture, Swampscott, Mass., April 1959, B (6) 151*d*.

Avgustinik, A. I., and Babin, P. N. Physicochemical processes during the firing of dolomite-serpentine mixes for the production of hydration-resistant dolomite clinker, (6) 139*a*.

Avgustinik, A. I., Setkina, O. N., and Fedorova, E. P. Fine structure of porcelain glasses by their infrared absorption and reflection spectra, (2) 31*i*.

Ayers, J. W. Production of red oxide of iron pigments, P (9) 218*d*.

Ayres, R. H. See Hopkins, F. L.

Azarov, K. P., and Grechanova, S. B. Physicochemical processes of enameling aluminum, (8) 187*f*.

Azbe, V. J. Let's look at kiln efficiency, (1) 2*i*. From primitive to modern in fifty years (I), (7) 154*c*; (II) vertical limekilns leap into maturity, (10) 226*f*; (III) how fuel economy keys limekiln automation, (10) 226*f*.

Baas Becking, L. G. M., and Moore, D. Density distribution in sediments, (7) 171*e*.

Babcock & Wilcox Co. Combination oil and gas burner, P (8) 198*a*. Displaceable guiding mechanism for extrusion mandrel, P (8) 196*g*. Fly ash reclamation by pelletizing, P (11) 260*g*. Fuel burner and igniter arrangement, P (8) 198*a*. Method of coating a cylindrical metal element, P (4) 87*f*.

Babin, P. N. See Avgustinik, A. I.

Bach, R. A. See Handwerk, J. H.

Backstrom, J. E. See Mielenz, R. C.

Backstrom, J. E., Burrows, R. W., Mielenz, R. C., and Wolkodoff, V. E. Origin, evolution, and effects of the air void system in concrete (II) influence of amount and type of air-entraining agent, (1) 2*i*; (III) influence of water/cement ratio and compaction, (1) 2*j*.

Bacon, J. F., and Hasapis, A. A. Viscosity of molten silica, (7) 181*c*.

Baden, T. A., Olson, L. J., Miller, H. L., and Copp, K. W. Dry type air cleaner, P (3) 68*a*.

Badger, G. M. W. Electron tube, P (4) 93*a*.

Badische Anilin- & Soda-Fabrik A.-G. Polymerization of olefins with a catalyst of chromium oxide on aluminum orthophosphate, P (8) 199*b*. Production of colloidally soluble aluminum hydroxide, P (3) 72*c*. Production of ferrites, P (7) 164*c*.

Badzioch, S. Collection of gas-borne dust particles by an aspirated sampling nozzle, (9) 219*g*.

Baerwald, H. G. Thermodynamic theory of ferroelectric ceramics, (4) 92*i*.

Bahn, R., and Blechschmidt, H. Shaping of nonplastic ceramic materials by injection molding, (3) 67*e*.

Balburt, L. G. See Kitaigorodskii, I. I.

Baier, R., Smart, J. S., Jr., and Phillips, A. J. Block graphite mold for continuous casting, P (11) 260*c*.

Bailey, P. C. Absorption and reflectivity measurements on some rare-earth iron garnets and α-Fe_2O_3, (10) 237*a*.

Bailey, W. D. Manufacture of a windowed article, P (11) 256*g*.

Bailleul-Langlais, J. Radiometric gauge for high-vacua measurements, (1) 15*b*.

Bainbridge, F. Troughed conveyer [apron belt], P (6) 144*e*.

Baker, C. L., and Austin, J. F. Finely divided metal silicate products, P (11) 262*c*.

Baker, E. G. Beryllia-boria composition as a catalyst for cracking higher boiling hydrocarbons, P (4) 99*d*. See Wranau, G. von.

Baker, R. F. See Marden, J. W.

Baker, R. J. See Hughes, G. B.

Baker, T. W. See Thomas, D. K.

Bakker, M. A. M. See Duran, J. C.

Bakr, M. Y. See Ibrahim, A. A. K.

Balchan, A. S., and Drickamer, H. G. Effect of pressure on the spectra of olivine and garnet, (7) 172*e*.

Balcom, G. A., and Wiltshire, A. J. Apparatus for making a reinforced fiber glass tube, P (11) 254*i*.

Balduin, H. Double-logarithmic particle size pattern in the investigation of raw clays for brick, (5) 112*j*. "White earth" (sericite shale) as a ceramic raw material, (11) 268*a*.

Bale, A. G., Jr. Automatic control for material distribution, P (6) 144*e*.

Bales, A. R. German lime industry, (6) 145*i*.

Ball, F. See Richardson, H. M.

Ball, F. C. Exotic smoked glazes for cone 04 to 10 (I–III), (9) 203*j*.

Ball, R. J., and Kay, S. E. Electrical method for the estimation of silver on mirrors, (5) 110*f*.

Ball, W. G. Development of enamels, (8) 186*i*.

Ballantine, J. S. Electric arc resistance furnace and method of melting refractory materials, P (1) 267*g*.

Ballard, F. J., and Co., Ltd. See Werkzeugmaschinenfabrik Oerlikon Bührle & Co., Abt. Elektrodenfabrik.

Baltzer, P. K., and Wojtowicz, P. J. Origin of low moments in chromium-containing spinels, (7) 176*i*.

Bando, Y. See Ogawa, K.

Bandringa, M. See Venema, A.

Banerjee, B. K. Magnetic study of iron-containing glasses at low temperature, (3) 56*j*. Studies on cobalt and nickel-containing glasses, (7) 157*j*.

Banerjee, J. C., and Chatterjee, N. B. Spinel refractories from Indian bauxite, (4) 88*j*.

Banerjee, J. C., and Nandi, D. N. Studies on the refractoriness under load of firebrick, (5) 113*d*.

Banner, R. G. See Perrin, T. S.

Baptista, A. Synthetic saléeite and meta-saléeite I, (5) 128*e*. See Rocha, N. S.

Baral, L. L. Method of preparing silica-alumina catalysts, P (3) 71*e*.

Barany, R. See Kelley, K. K.

Barber, S. W., Forry, K. E., and Degering, E. F. Effects of electron bombardment on elasticity and mechanical damping of certain glasses, (9) 206*b*.

Barbici, L. Photoelastic study of the crystals of Rochelle salt, (11) 271*g*.

Barcikowski, W. W., and Sabotka, C. W. Glass bending molds, P (8) 189*g*.

Bardin, A. N. Technology of Optical Glass, B (1) 25*j*.

Barker, R. S., Richardson, D. A., McConkey, E. A. G., and Rimmer, R. Gamma irradiation of lead silicate glass, (10) 228*a*.

Barna, J. Peptization of clays, (7) 176*j*.

Barnard, A. J., Jr., and Büechl, H. Sodium tetraphenylboron, 1958—a bibliography, (1) 17*d*.

Barnes, E. See Williams, J.

Barnes Engineering Co. Process for flattening thermistor flakes, P (2) 41*b*.

Barradell-Smith, R. Apparatus for producing a continuous ribbon of glass, P (4) 86*f*.

Barrer, R. M. New selective adsorbents—porous crystals as molecular filters, (7) 176*a*.

Barrer, R. M., and Reay, J. S. S. Sorption of benzene and water by a "phenyl" montmorillonite, (7) 179*c*.

Barrett, L. R. See Reed, L.; Royston, M. G.

Barrett, L. R., and Thomas, A. G. Surface tension and density measurements on molten glasses in the CaO–Al_2O_3–SiO_2 system, (2) 32*e*.

Barrett, R. E., Olson, E. R., and Schall, P., Jr. Indium oxide coatings, P (8) 187*e*.

Barron, L. H. Diamond edged band saw, P (7) 153*f*.

Barron, S. See Pagnotti, J. R.

Barshad, I. Factors affecting clay formation, B (9) 223*g*.

Barsukov, V. L. Isomorphism of boron is silicates, (9) 220*f*.

Barta, J. New device to measure casting rate, (10) 236*f*. Refractory properties of Israeli flint clay, (9) 218*d*.

Barton, C. J., and Grimes, W. R. Molten fluoride nuclear reactor fuel, P (5) 114*a*.

Barton, P. B., Jr. Synthesis and properties of carnotite and its alkali analogues, (4) 102*a*.

Bartosch, E. Suitability of raw gypsum for cement manufacture, (4) 83*a*.

Bartz, G. E., and Bill, W. Electronic microscope for top illumination of surfaces, P (7) 166*a*.

Barzaghi, L. Control and applications of refractory materials, (7) 160*e*.

Barzakovskii, V. P. See Budnikov, P. P.

Bashev, F. P., and Nazarov, M. P. Utilization of ceramic heat exchangers in rotary kilns, (8) 186*f*.

Basic, Inc. Beneficiation of magnesite ores, P (1) 17*g*.

Baskey, R. H. Seal material, P (9) 212*f*.

Baskin, Y., Greening, T. A., and Kemp, M. J. Failure mechanisms of solid propellant rocket nozzles, (3) 60*h*.

Baskin, Y., Harada, Y., and Handwerk, J. H. Some physical properties of thoria reinforced by metal fibers, (10) 234*f*.

Bassett, W. A. Origin of the vermiculite deposit at Libby, Montana, (2) 44*j*.

Basso, E., Jr. Glass severing apparatus, P (7) 158*j*.

Basyuk, A. S. Rotary excavator with a chain distributing conveyer, (1) 17*d*.

Batchelor, R. W. Resistance strain gauge as a means of determining the elastic constants of ceramic materials, (3) 68*f*.

Batel, W. Principles and problems of classification by sieving, (6) 144*b*.

Bates, J. L. See Brenden, B. B.; Newkirk, H. W.

Bates, R. G., Bower, V. E., Canham, R. G., and Prue, J. E. Dissociation constant of $CaOH^+$ from 0° to 40°C., (8) 200*i*.

Bates, R. L. Guide to industrial viscosity, (8) 196*i*.

Bates, T., and Douglas, R. W. Absorption bands of Cr^{3+} ions in solutions, crystals, and glasses, (6) 134*d*.

Bates, T. F. Morphology and crystal chemistry of 1:1 layer lattice silicates, (3) 76*h*. Rock weathering and clay formation in Hawaii, (10) 241*c*.

Bates, T. F., and Comer, J. J. Further observations on the morphology of chrysotile and halloysite, B (9) 223*a*.

Battelle Development Corp. Indium oxide coatings, P (8) 187*e*.

Battelle Memorial Institute (compiler). Semiconductor Abstracts (Vols. III, IV), B (6) 152*c*.

Batterson, C. E. Mineral collectors, P (8) 199*a*.

Baudran, A., and Deplus, C. Elastic phenomena in plastic ceramic bodies, (5) 124*f*. Rheological behavior of clay bodies, (11) 271*h*.

Bauer, E. Investigations on epitaxy, (10) 244*f*.

Bauer, H. E. See MacMaster, H. D.

Bauer, W. G. Coming role of pozzolans (I), (1) 2*g*; (II) incentives for an industry, (1) 2*h*; (III) bibliographic review, (4) 82*g*; (IV) product potential through process design, (10) 225*j*; (V) product uniformity, key to successful pozzolan production, (11) 250*j*; (VI) heat-activation techniques, (11) 250*k*.

Bauleke, M. P. Mineral wool from volcanic ash? (10) 228*i*. See Plummer, N.

Baumann, H. Polymerization and depolymerization of silicic acid under various conditions, (5) 126*j*.

Baumer, H. See Stinnes, H.

Baur, G. S. See Sand, L. B.

Bausch & Lomb Optical Co. Adjusting mechanism for slit lamp apparatus, P (10) 246*a*. Methods of making reticles, P (6) 136*i*.

Bayer, G. Cr_2WO_6, a new trirutile compound, (10) 243*f*.

Bayston, P. L., Rawson, H., and Stanworth, J. E. Semiconducting properties of some vanadate glasses, (5) 116*g*.

Beals, M. D., Blair, L. R., and Lindenthal, J. W. Stabilization of vitreous enamel stains, P (9) 205*i*.

Beals, M. D., and Giess, E. A. Preparation of ceramic frit compositions, P (5) 116*b*.

Beals, M. D., and Merker, L. Three new single crystal materials, (6) 142*g*.

Bean, C. P. See Meiklejohn, W. H.

Bean, C. P., Fisher, J. C., and Vermilyea, D. A. Ionic conductivity of tantalum oxide at very high fields, (2) 46*i*.

Bean, Morris, & Co. Casting mold for fusible pattern, P (7) 161*h*. Casting mold, pattern, and process, P (4) 89*g*.

Bean, X. L. Casting mold for fusible pattern, P (7) 161*h*. Casting mold, pattern, and process, P (4) 89*g*.

Bear, J., and McTaggart, F. K. Sulfides, selenides, and tellurides of titanium, zirconium, hafnium, and thorium (II) chemical properties, (7) 180*i*.

Beard, C. L. See Roup, R. R.

Beard, R. See Dinnie, A.

Beardsley, C. W. See Tremper, B.

Beattie, J. R. Spectral emission of radiation by glass, (10) 229*i*.

Beauchamp, E. K. "Flash etching" of Al_2O_3 grain boundaries, (11) 270*i*.

Beauquesne, R. See Orelli, D.

Beck, B. D., Sr., and Swain, A. B. Glasamelting furnace with bubbler patterns, P (4) 86*d*. Manufacture of colored glass by addition of colorant to flint glass in a feeder, P (6) 136*j*.

Beck, E., and Bode, H. Machine for mixing and comminuting materials, P (11) 266*a*.

Beck, W. R., and Hann, G. C. Ion exchange glass and use, P (10) 230*c*.

Becker, E. J., Cleveland, H. M., Pondy, P. R., and Robinson, H. J. Method of making sintered cathodes, P (4) 94*f*.

Becker, G. D. Seals for gyratory crusher shafts, P (5) 122*h*.

Becker, H. Apparatus for the analysis of hot dust-laden gases, P (1) 16*a*.

Becking, L. G. M. B. See Baas Becking, L. G. M.

Beckman Instruments, Inc. Method of oxygen analysis [in a gas sample], P (10) 246*a*. Oxygen analyzer, P (10) 246*b*. Spectrophotometric system, P (11) 273*d*.

Beckmann, H. Process and apparatus for conveying finely divided material [by compressed air], P (7) 165*c*.

Beckwith, W. K. Method and apparatus for forming spheres, P (4) 87*a*.

Becton, Dickinson and Co. Method of marking graduated glass clinical thermometers, P (8) 190*b*.

Bedell, E. J. Method and apparatus for making mosaic tiles, P (4) 91*c*.

Beidler, E. A. See Yntema, L. F.

Beier, E. See Löffler, W.

Belcher, R. See Kolthoff, I. M.

Belcher, R., and Wilson, C. L. Inorganic Microanalysis—Qualitative and Quantitative, B (1) 24*j*.

Beljers, H. G. See Schulkes, J. A.

Bell, H. B. See Livey, D. T.

Bell, J. N. Barrels or tons—which for the cement industry? (3) 52*j*. Depreciation and percentage depletion (I–III), (6) 149*b*. PCA's ten years of progress in research, (10) 226*c*.

Bell, R. Pyrometric cone and key production, (4) 97*e*.

Bell & Howell Co. Lens grinding means, P (10) 230*d*.

Bell Telephone Laboratories, Inc. Barium titanate as a ferroelectric material, P (4) 92*j*. Electrostrictive ceramics comprising a principal component of barium titanate, P (3) 65*j*. Ferroelectric devices, P (1) 13*c*. Ferroelectric storage array, P (3) 66*a*. Gas seal, P (4) 91*b*. High pressure [vitreous] insulating seal for [coaxial] electrical cable system, P (11) 264*a*. Magnetic materials, P (11) 264*a*. Manufacture of germanium translators, P (9) 214*d*. Method of making an insulated conductor, P (3) 66*a*. Method of making single crystal cores of a ferrite including cobalt, P (3) 66*b*. Method of making sintered cathodes, P (1) 13*g*, P (4) 94*f*. Nonreciprocal gyromagnetic device, P (11) 264*f*. Plating method, P (5) 118*b*. Preaging of electrostrictive ceramics, P (10) 238*g*. Single crystal inductor core of magnetizable garnet, P (9) 215*a*. Surface treatment of ferroelectric materials, P (4) 94*i*.

Bellco Glass, Inc. Laboratory vessel, P (11) 250*f*.

Belobragin, N. Z. See Strelets, V. M.

Belobrov, K. V. Production of unfired magnesite-chromite brick, (3) 61*i*.

Belov, K. P., and Pedko, A. V. Magnetostriction of gadolinium iron garnets, (10) 237*c*.

Belova, M. I. See Ivanov, S. M.

Beltz, K. See Glemser, O.

Belugou, P. See Condolios, E.

Belugou, P., and Condolios, E. Process [fluid] and apparatus for the separation of solid particulate materials of different densities and/or different particle size, P (11) 269*i*.

Bemis Bro. Bag Co. Fluid pressure operated device for auger feeding granular or powdered material, P (4) 99*c*. Method of and apparatus for evacuating air from bag body at time of filling, P (10) 241*b*.

Bendix Aviation Corp. Activation of ferroelectric materials, P (7) 164*a*. Friction article, P (11) 260*i*. Friction lining compositions, P (10) 235*b*. Gap bridging material, P (10) 238*c*. Thermally sensitive resistor, P (9) 215*c*. Ultrasonic cleaning method and apparatus, P (10) 239*j*.

Benedict, S. W., and Kelly, T. M. Hydraulic cement compositions, P (7) 155*b*.

Benesovsky, F. See Nowotny, H.

Bengtsson, B. F. J. See Ulfstedt, L. T.

Benjamin, I. A., and Ratliff, G. D., Jr. In-place strength test for low-density concrete, (3) 54*d*.

Benjamin, P., and Weaver, C. Adhesion of metal films to glass, (10) 227*e*. Condensation energies for metals on glass, (7) 170*j*.

Bennett, A. L. Method of burning sewer pipe, etc., P (4) 88*b*.

Bennett, H. Gravimetric method for the determination of silica, (1) 20*a*. Recent advances in the analytical chemistry of silicate materials, (3) 68*d*. Solubility of lead glazes (V) chemical factors affecting solubility determinations, (1) 11*h*.

Bennett, H., and Hawley, W. G. Methods of Silicate Analysis, B (2) 49*j*.

Bennett, H., Hawley, W. G., and Eardley, R. P. Rapid analysis of some silicate materials, (7) 177*i*.

Bennett, H., and Vaughan, F. Solubility of lead glazes (IV) investigation of certain chemical methods of lead determination, (1) 11*g*.

Bennett, H. E. Care of platinum thermocouples, (9) 208*c*.

Bennett, H. E., and Koehler, W. F. Precise measurement of absolute specular reflectance with minimized systematic errors, (5) 119*i*.

Benson, S. W., Grossman, J. J., and Elkie, H. S. Molecular mass spectrometer, P (9) 216*j*.

Benton, E. J. See Mielenz, R. C.

Bents, U. H. Neutron diffraction study of the magnetic structures for the perovskite-type mixed oxides $La(Mn,Cr)O_3$, (4) 92*b*.

Beranek, E. Manufacture of decorative glass articles, P (9) 209*a*.

Berg, J. V., and Stare, C. G. H. Method for manufacturing reinforced lightweight concrete, P (11) 251*j*.

Bergstedt, B. A. Electrostatic precipitator, P (11) 265*a*.

Berkenhoff, H. O. See Fritz, G.

Berkley, C., Mansberg, H. P., Thomas, G. N., and Yamagami, Y. Particle counter, P (11) 267*a*.

Berlincourt, D. See Jaffe, H.

Berlincourt, D., and Brunarski, F. T. Polarization of titanate ceramics, P (9) 214*j*.

Berlincourt, D., and Krueger, H. H. A. Dependence of the ratio of piezoelectric coefficients on density and composition of barium titanate ceramics, (4) 92*a*. Domain processes in lead titanate zirconate and barium titanate ceramics, (4) 92*f*.

Bernal, J. D. Structure of liquids, (10) 229*c*.

Bernard, G. G. Treatment of clayey materials, P (11) 270*a*.

Berner, L. Apparatus for drying or heating granular material, P (8) 196*c*.

Bernshtein, R. S. Heat transfer in tunnel kilns, (2) 43*d*.

Bernshtein, R. S., and Ivanov, S. M. Aerodynamic resistance of the setting in tunnel kilns, (2) 43*c*.

Bernutat, P. Nomogram for approximate calculation of tube mills, (1) 14*c*.

Berreman, D. W., and Chang, Te Tse. Effect of thermal motion on the X-ray reflectivity of quartz, (9) 219*c*.

Berry, C. R., and Combs, C. M. Antiferromagnetic $FeVO_3$, (10) 237*c*.

Berry, T. F. Method of retarding disintegration of blast-furnace lining, P (4) 89*f*.

Berting, F. M. See Koonce, S. E.

Bertseller, A. S. See Sinyanskii, V. I.

Berz, M. Ring and roller pulverizing apparatus, P (11) 269*i*.

Best, B. See Mangsen, C. B.

Bethlehem Apparatus Co., Inc. Polymix gas burner, P (4) 98*c*.

Bethlehem Steel Co. Low fired silica brick, P (2) 37*g*.

Betts, W. D. See Carlson, B. C.

Betz, H. T. See Appel, A. V.

Beus, A. A. Position of alkaline metals in the beryl structure, (9) 220*d*.

Beyer, H. See Wolf, F.

Beyersdorfer, P. Densest packing of grains without dust content, (4) 103*c*.

Bezborodov, M. A., Mazo, E. E., and Kaminskaya, V. S. Enamels for aluminum based on the lead–phosphate–silicate system, (9) 205*f*.

Bhatye, S. V. See Ram, A.

Bhuta, V. S., and Misra, M. L. Sillimanite and kyanite insulating brick, (10) 234*e*.

Bibbins, G. L. Sintered bearing composition, P (4) 90*c*.

Bickerstaff, K. See Pilkington, L. A. B.

Bickford, F. A., and Peters, F. I. Granulation method, P (8) 196*b*.

Bidet, J. P., and Jouenne, C. A. Study of the effect of temperature on reactions of kaolinite, (5) 128*g*.

Bidwell, L. R. See Rizzo, H. F.

Bierbrauer, G. Ceramics in the Hanseatic town of Lübeck, (6) 131*i*. Cobalt oxide glazes, (3) 63*d*. Engobes with titania and zinc oxide, (9) 213*e*. Glaze experiments with chromium oxide, (8) 194*a*. "Kerbschlieren" decoration—a new modeling technique, (11) 250*f*. Possible reuse of bright gold residues, (8) 185*i*.

B-I-F Industries. Gravimetric screw type feeders and weighers, P (1) 14*d*. Tilting disk weigher and feeder, P (6) 144*d*.

Biggs, R. W. Method of bending sintered material, P (11) 260*f*.

Bigi, M. U. Modern trends and tradition in the ceramic art of Sardinia, (5) 106*c*.

Bikerman, J. J., and McGarry, F. J. Adhesion to glass, (9) 206*a*.

Bill, W. See Bartz, G. E.

Billos, W. See Croft, G. M.

Billue, R. F., and Williamson, J. T. Method of dewatering clay, P (3) 71*j*.

Binder, H. See Wagner, G.

Binder, I. Structure and properties of rare-earth and yttrium hard metals, (7) 161*a*.

Bingham, R. S., Jr., and Gioele, J. L. Statistical methods for ceramic process control and experiment planning, (7) 164*i*.

Bipes, W. L. Control system for sandblasting equipment, P (10) 226*j*.

Birkness, H. A., Randall, P. N., and Wright, L. T. Burner structure for high temperature gas generators, P (10) 240*g*.

Birks, J. B., and Schulman, J. H. (editors). Progress in Dielectrics (Vol. I), B (11) 274*b*.

Birks, L. S., and Seal, R. T. X-ray properties of plastically deformed LiF, (7) 181*h*.

Birmingham Small Arms Co., Ltd. Production of powder-metallurgy articles, P (5) 114*b*.

Bisceglia, D. T., and Rodd, J. W. Cutting hard materials with ceramics, (3) 51*f*.

Bishay, A. M. Gamma-ray induced absorption band in some lead borate glasses, (9) 207*b*.

Bishop, E. Production of powder-metallurgy articles, P (5) 114*b*.

Bishop, F. L. Comparative tracer tests on container and window glass tanks (I, II), (11) 253*d*.

Bishui, B. M. See Mackenzie, R. C.

Bishui, B. M., and Prasad, J. Mineralogical nature of some Indian clays (I) clays from Kusumpur, Kot Ransipur, Bhandak, and Neyveli, (7) 175*f*. Thermal conductivity of some ceramic heat insulating materials, (4) 89*b*. X-ray study of some Indian clays, (3) 71*e*.

Bisque, R. E., and Lemish, J. Insoluble residue-magnesium content relationship of carbonate rocks from the Devonian Cedar Valley formation, (7) 174*d*.

Bituminous Coal Research, Inc. Ash separator for powdered coal burning pressurized combustion system, P (4) 97*i*.

Bivens, P. E., and Schaefer, E. F. Apparatus for applying surface coatings to glassware, P (7) 157*h*.

BJ Service, Inc. Cement composition, P (11) 251*d*.

Bjorksten, J. See Eisen, J. B.

Bjorksten Research Laboratories, Inc. Glass fiber treatment, P (8) 189*a*. Metal coating of glass fibers at high speeds, P (3) 58*i*.

Black, J. A. Machine for drying coated sheet stock, P (3) 69*h*.

Black, J. G., Jr. See Rayburn, C. C.

Black, L. V. Apparatus for the air chilling of bent glass, P (6) 135*g*.

Blackman, A. Pottery in the Sudan, (7) 154*a*.

Blackman, L. C. F. Cooperative magnetism in oxide structures (II) ferrimagnetism, (2) 39*f*. Some factors involved in the preparation of a reproducible magnesium-manganese ferrite, (3) 65*c*. See Ubbelohde, A. R.

Blackman, L. C. F., Dundas, P. H., and Ubbelohde, A. R. Anisotropic thermoelectric power of graphite, (8) 194*f*.

Blackman, M., and Kaye, G. Electron diffraction study of the effects of heat-treatment on α-Fe_2O_3 (hematite) single crystals, (10) 244*d*.

Blaha, E. Radiant cup type gas burner, P (1) 16*f*.

Blainey, A. Hot pressing powders in England, (7) 160*j*.

Blair, G. E. Applications of radiation effects in glasses in low- and high-level dosimetry, (9) 206*b*.

Blair, G. R. Determination of spectral emissivity of ceramic bodies at elevated temperatures, (5) 124*f*.

Blair, L. R. See Beals, M. D.

Blakey, F. A. See Kroone, B.

Blanchard, P. Drying of refractory linings for rotary kilns, (7) 160*f*.

Blanchin, L. See Prettre, M.

Blanding, W. S., and Claypoole, S. A. Dip coating machine, P (10) 230*d*.

Blanding, W. S., and Shaver, W. W. Cathode-ray tube manufacture, P (9) 209*c*.

Blankevoort, D. Apparatus for the continuous drainage of wet sand, P (3) 71*g*.

Blankevoort, D., & Zoon N. V. Apparatus for the continuous drainage of wet sand, P (3) 71*g*.

Blattler, H. Ceramics in Italy, B (9) 222*h*.

Blatz, W. L. Electrode assemblies, P (8) 192*d*.

Blau, H. H., Jr. See Emslie, A. G.

Blechschmidt, H. See Bahn, R.

Bleuenstein, J. M. Shell molding material and process, P (11) 261*d*.

Bliss, C., and Faatz, A. C., Jr. Composite firebrick, P (3) 62*g*.

Block, S., Burley, G., Perloff, A., and Mason, R. D., Jr. Refinement of the crystal of triclinic magnesium pyroborate, (4) 101*d*.

Bloem, D. L. See Walker, S.

Blondiau, L. Influence of mixing and exposure at 40°C. on the workability and strength of concrete, (5) 106*j*.

Bloor, E. C. Plasticity in theory and practice, (7) 176*j*.

Bloss, F. D., Shekarchi, E., and Shell, H. R. Hardness of synthetic and natural micas, (3) 75*c*.

Blue Ridge Glass Corp. Method and apparatus for drilling large holes through glass sheets, P (3) 58*j*.

Blum, S. L., and Maguire, E. A. Differential thermal analysis of some yttrium and lanthanon compounds, (8) 200*h*.

Bluvshtein, M. N., Volynskii, E. A., and Vodop'yanov, G. V. Production and use of unfired magnesite-chromite brick in the roofs of open-hearth furnaces at the Izhorsk factory, (8) 191*c*.

Blyumen, L. M. Physicochemical nature of clay bloating—formation of keramsite, (8) 190*i*.

Bockris, J. O'M. See Tomlinson, J. W.

Bockris, J. O'M., White, J. L., and Mackenzie, J. D. (editors). Physico-Chemical Measurements at High Temperatures, B (10) 247*i*.

Bode, H. See Beck, E.

Boden, H. W. Car bottomed furnace, P (8) 197*i*.

Bodin, V. Bloating of products during firing, (3) 59*j*. Technology of Products of Fired Earth, B (1) 25*a*.

Boegehold, A. L. Process and apparatus for forming reinforced thin-walled shell molds, P (11) 261*e*.

Böhler, M. Continuous drying kiln for sheathed welding electrodes, P (11) 267*f*.

Boehm, H. P. See Clauss, A.

Boehm, H. P., and Schneider, M. Hydroxyl groups on the surface of amorphous silica Aerosil and their reactions, (5) 125*g*.

Boehm, M. J. See Henry, W. E.

Bömmel, H. E., Mason, W. P., and Warner, A. W. Dislocations, relaxations, and anelasticity of crystal quartz, (2) 46*f*.

Börnert, H., and Weber, U. v. Note on the permeation of hydrogen through quartz glass coated with palladium, (3) 57*c*.

Boettcher, A. See Schneider, G.

Böttcher, G. See Drescher-Kaden, F. K.

Bogdanova, G. S. See Tsaritsyn, M. A.

Bogdanova, G. S., and Orlova, E. M. Heat resistant yellow-orange light filters, (8) 188*d*.

Boggs, F. L. See Maloy, A. L.

Boicey, J. L. Method of testing electrically conducting films, P (10) 231*b*.

Boland, M. P. Method of preparing finely divided alumina-silica pigments, P (11) 269*a*.

Bolgiu, O., and Dumitrescu, A. Native argillaceous rocks which could replace bauxite in the aluminum industry, (3) 70*e*. Thermal study of rock minerals (III) differential thermal analysis of the transformations of some minerals and argillaceous rocks, (11) 272*e*.

Bolgiu, O., Dumitrescu, A., and Fruchter, S. Serpentines of southern Banat and their exploitation, (6) 146*e*.

Bolidens Gruvaktiebolag. Apparatus for ore separation, P (7) 167*f*.

Bollack, R., and Mathieu, F. Process for agglomerating aluminum nitride, P (6) 146*i*.

Bollack, R., and Rey, M. Process of making molded aluminum nitride articles, P (8) 193*a*.

Boller, E. H. See Collins, D. M.

Bolt, G. H., and Warkentin, B. P. Negative adsorption of anions by clay suspensions, (5) 125*j*.

Bolton, John W., & Sons, Inc. Magnetic separator, P (11) 266*a*.

Bolton, W. M., and Ruse, R. L. Precision vapor or sand blasting machines, P (1) 14*g*.

Bond, R. L., Godridge, A. M., Murnaghan, A. R., Napier, D. H., and Williams, D. J. Studies of coal, (2) 44*b*.

Bonnaud, M. See Paymal, J.

Bonneau, L. P. Material classification, P (4) 99*i*.

Bonnelycke, B. E., and Dandliker, W. B. Light scattering of colloidal silica, (8) 201*a*.

Bonner, C. A. Movable table runout and return apparatus, P (2) 34*d*.

Booss, H.-J. Behavior of hard refractory materials and high-melting metals in alkaline tripotassium hexacyanoferrate(III) solutions, (5) 123*g*. Characterization of technical colloidal graphites, (2) 44*d*.

Booth, A. E. Method of making a foamed and expanded product from volcanic glass, P (11) 256*j*.

Booth, F. T., and Peel, G. N. Principles of glaze opacification with zirconium silicate, (6) 141*f*.

Booth, G. M. Viscosity control method and apparatus for hydrating lime, P (2) 29*k*.

Borge, O. E. See Davis, H. S.

Borodina, M. L. Titanium dioxide (rutile), (2) 45*a*.

Borolite Corp. Cemented zirconium boride material having a protective chromium containing coating, P (9) 212*e*.

Borroni, F. Ceramic splendors at the Florence antique show, (6) 131*h*.

Borzenkova, M. P., Novoselova, A. V., Simanov, Yu. P., Chernykh, V. I., and Yarembash, E. I. Thermal and X-ray analysis of the system KF–BeF_2, (9) 221*c*.

Bossard, A. G. Sintered or bonded ceramic refractory body, P (5) 114*f*.

Bossetti, A. Passage continuous kiln for firing ceramic material, P (11) 267*f*.

Bostock, W. Electrostatic precipitators, P (7) 165*b*.

Boeshardt, A. K., and Hahn, M. P. Preventive maintenance for crushers and screens (I), (6) 146*c*; (II) vibrating screens, (6) 146*c*.

Bothge, D. R. Placing of wall tile in saggers, (2) 38*a*.

Botvinkin, O. K., and Shpil'kov, E. M. Mechanism of glass formation, (6) 134*j*.

Boulassier, J. C. Vacuum degassing of materials at ambient temperature, (11) 273*a*.

Bovenkerk, H. P. Reaction vessel, P (11) 266*a*. See Strong, H. M.

Bovkun, S. S. See Tsigler, V. D.

Bowden, J. J. Durable bonded mass, particularly briquettes, for use as metallurgical fluxes, P (7) 161*a*.

Bowden, W. H. Bathtub, P (5) 106*c*.

Bowe, G. R., Schutz, H. R., and Suchocki, J. J. Method and apparatus for washing glass articles, P (3) 59*c*.

Bowen, C. H. Bubble inclusions and surface features of quartz sand grains, (10) 241*a*.

Bower, V. E. See Bates, R. G.

Bowman, R. E. How radiation affects engineering materials, (10) 244*i*.

Bown, M. G., and Gay, P. Identification of oriented inclusions in pyroxene crystals, (6) 148*d*.

Bowtell, J. N., and Moore, J. A. Manufacture of electric incandescent lamps, P (9) 209*c*.

Box, E. R. Modern types of transfer, (9) 213*f*.

Boynton, R. S. European lime manufacture, (10) 225*j*.

Bozorth, R. M. Method of making single crystal cores of a ferrite including cobalt, P (3) 66*b*.

Bozsin, M. Lightweight Bozsin box, (2) 30*c*.

Bracale, S. See Massimilla, L.

Brace, A. W. See Lister, L.

Bradbury, B. T. See Williams, D. J.

Bradbury, B. T., and Maddocks, W. R. Studies of phosphate melts and glasses (II) surface tension measurements on binary phosphates, (6) 135*g*.

Bradbury, J. Fusing furnaces—types, operation, and maintenance, (8) 187*d*.

Bradbury, J. C. Rare earth and trace element content of an unusual clay on Hicks Dome in Hardin County, Illinois, (9) 218*c*.

Bradley, A. L. See Cannon, J. H.

Bradley, R. S. Refractories in the rocket age, (11) 259*d*.

Bradley, W. F. Current progress in silicate structures, B (9) 223*b*.

Bradley Mining Co. Antimony oxide glass, P (5) 111*c*.

Bradshaw, J. See Hurst, D. W. S.

Bradstreet, S. W. Method and compositions for flame spraying, P (2) 30*g*.

Bradstreet, S. W., and Griffith, J. S. Fine particle production, P (1) 18*e*.

Bradstreet, S. W., and Rechter, H. L. Ceramic coated golf club head, P (3) 55*g*.

Brady, G. W., and Flaschen, S. S. Surface treatment of ferroelectric materials, P (4) 94*i*.

Brady, J. G. Preliminary evaluation of clays and shales for clay products, (7) 167*c*.

Bragaw, C. G., Jr., and Simeral, W. G. Safety-glass laminate, P (11) 257*b*.

Brainerd, G. W. Archaeological Ceramics of Yucatan—Anthropological Records (No. 19), B (7) 182*g*.

Braithwaite, D. G. Purification of synthetic alumina catalyst bases, P (3) 72*d*. Silica-alumina compositions, P (10) 242*f*.

Brake, E. R. Material crushing apparatus, P (10) 241*j*.

Brandstädt, W., and Wlokka, H. Metal-coated ceramic article, P (7) 161*d*.

Braniski, A. Refractory concretes with barium aluminous cement as binder, (6) 133*b*.

Braniski, A., Siniansky, V., and Cieper, C. Refractory heat-insulating products from metallurgical slags, (2) 36*f*.

Brant, L. H. Operating the Brulax system of oil firing, (5) 120*d*.

Brashares, C. A. See Rochow, W. F.

Brauer, G. M. Cements from metal oxides and chelating agents, P (9) 205*a*.

Braun, P. B. See Jonker, G. H.

Braune, G. See Fischer, W.

Bray, H. A., and Peppitt, E. W. Friction material, P (2) 37*e*.

Breadner, R. L., and Simms, C. H. Methods of sealing a tubular glass neck portion to a glass wall, P (6) 136*j*.

Bredig, M. A. High-temperature cubic phases of uranium and lanthanum dicarbides, (10) 244*h*.

Bredow, H. Testing the chemical resistance of optical glasses, (7) 157*d*.

Breen, R. J., Delaney, R. M., Persiani, P. J., and Weber, A. H. Total neutron scattering in vitreous silica, (4) 85*g*.

Breidenthal, K. From the civic collection to the ceramic museum, (3) 52*e*.

Breitling, G. See Richter, H.

Brémond, P. Capillarometry—the morphology, size, and distribution of pores in ceramic bodies, (5) 123*h*.

Brenden, B. B. See Newkirk, H. W.

Brenden, B. B., Newkirk, H. W., and Bates, J. L. Principles of high-temperature microscopy, (6) 144*i*.

Brennan, H. M., and Field, E. Preparation of alumina extrudates, P (7) 167*h*.

Brett, B. A. See Chandler, H. P.; Hartwell, J. W.; Irving, D. R.; Polo, T. de.
Brewer, F. H. See Marsden, C. P., Jr.
Breyer, E. Method and apparatus for removing liquids from glass plates, P (11) 256*i*.
Brice, B. A. Glass color standards and a uniform chromaticity scale for sugar products, (5) 110*h*.
Brickell, B. Drip-feed kiln—further hints, (8) 185*i*.
Bright, J. R. Automation and Management, B (9) 222*g*.
Brill, R., and Zandy, H. Absolute measurement of the intensity of the (111) reflection for diamond, (8) 199*h*.
Brilliantov, N. A. See Grum-Grzhimailo, S. V.
Brindley, G. W. X-ray and electron diffraction data for sepiolite, (6) 149*e*. See Stemple, I. S.
Brindley, G. W., and Maroney, D. M. High-temperature reactions of clay mineral mixtures and their ceramic properties (II) reactions of kaolinite-mica-quartz mixtures compared with the K_2O–Al_2O_3–SiO_2 equilibrium diagram, (11) 270*f*.
Brindley, G. W., and Nakahira, M. New concept of the transformation sequence of kaolinite to mullite, (2) 47*c*.
Brindley, G. W., and Rustom, M. Adsorption and retention of an organic material by montmorillonite in the presence of water, (3) 72*i*.
Brindley, G. W., and Udagawa, S. High-temperature reactions of clay mineral mixtures and their ceramic properties (I) kaolinite-mica-quartz mixtures with 25% (wt.) quartz, (3) 75*h*. Sources of error in the X-ray determination of quartz, (1) 21*f*.
Brist, U. M. See Covert, K. B.
British Dielectric Research, Ltd. Ceramic dielectric materials, P (5) 117*c*.
British Oxygen Co., Ltd. Purification of argon, P (5) 122*f*.
British Petroleum Co., Ltd. Hydrocatalytic desulfurization of gas oil, P (1) 18*h*.
British Plaster Board, Ltd. Production of plaster board, P (10) 226*f*.
British Thomson-Houston Co., Ltd. Electric lamps, P (9) 209*c*.
British Titan Products Co., Ltd. Preparation of titanium dioxide, P (9) 218*b*.
Britsch, H. Sintering of corundum, (7) 178*e*.
Britton, O. J., and Holtz, E. F. Method for repairing glass coated apparatus, P (5) 109*a*.
Brixner, L. H. Ferromagnetic material, P (5) 117*i*, P (10) 238*b*.
Broadhurst, F. M. See Howie, R. A.
Broadley, P. R. See Yellott, J. I.
Brock, P. See Allison, E. B.
Brockus, C. G. See Sharpe, C. B.
Brockway Glass Co., Inc. Automatic inspection apparatus for glass containers, etc., P (2) 32*b*. Method and apparatus for manufacturing glassware, P (4) 87*c*.
Broderick, E. J., and Doucette, L. J. Mold apparatus for casting glass, P (6) 137*b*.
Broderick, E. J., and Morrissey, W. J. Glass component for electrical apparatus, P (7) 158*e*.
Brodskii, Yu. A., Tyurin, Yu. M., and Tsoi, R. I. Trial use of polirit for the conveyerized polishing of glass, (4) 81*f*.
Brömer, H., and Meinert, N. Optical glass, P (2) 34*d*.
Broman, J. S. Tightening device for mantles and liners in crushers, P (5) 122*i*.
Bron, V. A., and Ralchenko, T. F. Effect of gaseous atmosphere on forsterite products during firing, (10) 232*i*.
Bronshtein, Z. I., and Kostin, V. I. Rapid production method for bonding curved automobile windshields, (9) 208*d*.
Bronstert, F. Electrode arrangement, P (1) 6*h*.
Brookover, G. B., and Tom, E. M. Preoxidation [by hydrogen] of stainless steel for glass-to-metal sealing, P (8) 190*a*.
Broom, W. E. J., and Roast, C. A. Oil firing [in the ceramic and glass industries], (9) 217*f*.
Broschke, H. See Schulze, R.
Brothers, W. M. Production of plaster board, P (10) 226*f*.
Brough, J., and Robertson, R. H. S. Chlorite convention for the appraisal of Scottish fire clays, (7) 170*c*.
Brown, A. H. See Lazar, M. E.
Brown, C. S. Internal friction in synthetic quartz, (10) 244*e*.
Brown, D. L. See Shell, H. R.
Brown, E. H. See Polivka, M.
Brown, F. X-ray fluorescence analysis—a review, (7) 181*f*.
Brown, J. F. Spectrographic analysis of some ceramic materials, (7) 179*g*.
Brown, M. G. See Rhodes, C. C.
Brown, S. D. Temperature dependence of growth processes in glass devitrification, (3) 57*b*.
Brown, S. F., and Norton, F. H. Constitution of copper-red glazes, (1) 10*j*.
Brown, T. G. See Turner, P. J. A.
Brown, W. E. See Smith, J. P.
Brown, W. F. Method of changing glass composition, P (2) 34*e*.
Brownell, W. E. Retention of sulfates by fired clay products, (5) 113*a*. See Young, J. E.
Brück, R. See Prill, A.
Brueckner, H. U. See Fluskey, E. E.
Bruff, W. V. H. Arrangement for discharge of material from rotary kilns, P (1) 16*b*.
Brunaraki, F. T. See Berlincourt, D. A.
Brunauer, S. See Kantro, D.
Brunner, G. O. See Wondratschek, H.
Bryant, E. F. Porcelain Enameling Operations, B (2) 50*d*.
Bryant, E. E., and Johnson, G. H. Rapid method of determining comparative subsieve fineness of milled porcelain enamels, (1) 3*h*.
Bryant, L. D. Fertilizer composition containing calcium silicate, P (2) 45*f*.
Bryant, P. T. See Contini, R.
Bryant Chucking Grinder Co. Art of dressing grinding wheels, P (11) 249*j*.
Bubley, H. J. See Hutchings, R. A.
Buchmann, F. J. See Kimberlin, C. N., Jr.
Buchner, S. Firing ceramic grinding wheels and pieces, (8) 185*e*.
Buck, A. D., Houston, B. J., and Pepper, L. Effectiveness of mineral admixtures in preventing excessive expansion of concrete due to alkali-aggregate reaction, (3) 53*a*.
Buck, Leonard J., Inc. Process of preparing chromic oxide, P (6) 146*j*.
Buckholdt, R. E. Industrial gas burner, P (11) 267*h*.
Buckingham, J. S. Preparation of uranium trioxide, P (3) 72*b*.
Buckle, E. R., and Taylor, H. F. W. Calcium analogue of chondrodite, (3) 73*c*.
Buckner, D. A., and Roy, R. Note on a subsolidus study of the system $CaSiO_3$–$SrSiO_3$, (2) 47*d*.
Budd, C. B., and Weaver, D. E. Method for [metal] coating filaments of glass, P (8) 190*c*.
Budde, W. Standards of reflectance, (7) 179*a*.
Budnikov, P. P. Ceramic industrial development in the U.S.S.R., (11) 273*f*.
Budnikov, P. P., and Barzakovskii, V. P. Trial manufacture of high silica glass in the People's Republic of China, (6) 135*b*.
Budnikov, P. P., and Zvyagil'skii, A. A. Influence of BeO and technical Al_2O_3 on the basic properties of electrical porcelain, (5) 115*e*.
Budzilek, A. E. See Glover, W. S.
Bueche, A. M. See Gaines, G. L., Jr.
Bueche, F. Mobility of molecules in liquids near the glass temperature, (7) 175*g*.
Büchler, K. H. Bonding material in sand-lime brick, (11) 250*h*.
Büechi, H. See Barnard, A. J., Jr.
Bühler, Gebrüder. See Gebrüder Bühler.
Bünzen, K. See Jura, R.
Buerger, M. J. Vector Space and Its Application in Crystal-Structure Investigation, B (6) 152*g*. See Hahn, T.
Buerger, M. J., and Nüzeki, N. Correction for absorption for rod-shaped single crystals, (3) 73*b*.
Buffalo Pottery, Inc. Method and means for molding, P (6) 144*b*.
Bugosh, J. Fibrous alumina monohydrate, P (4) 99*b*.
Buhler, J. S. Chemical analysis by push-button instrumentation, (7) 165*f*.
Bulger, D. W. Printed circuit sandwiched in glass, P (9) 215*c*.
Bullock, B. W. See Parker, H. M.
Bulloff, J. J. See Sheets, H. D.
Bumm. Methods and apparatus for the production under high vacuum of germanium and silicon single crystals of high purity, (11) 271*d*.
Bunakov, A. G. See Mchedlov-Petrosyan, O. P.
Bundy, F. P. Diamond synthesis, P (11) 249*h*. High pressure high temperature apparatus, P (11) 265*b*. High temperature high pressure apparatus, P (11) 265*f*. Two-stage high pressure high temperature apparatus, P (11) 266*d*. See Strong, H. M.
Bundy, W. M., and Murray, H. H. Argillization in the Cochiti mining district, New Mexico, B (9) 223*f*.
Bunting, E. N. See Weir, C. E.
Bunting, E. N., and Van Valkenburg, A. Some properties of diamond, (3) 77*i*.
Burke, E. A. See Thomas, R. D.
Burley, G. See Block, S.
Burr, R. D. Adhesives for laminated panels, (7) 155*d*.
Burroughs, F. L. See Stone, R. O.
Burrows, G. Evaporation at low pressures, (8) 200*d*.
Burrows, R. W. See Backstrom, J. E.; Mielenz, R. C.
Burst, J. F., Jr. Postdiagenetic clay mineral environmental relations in the Gulf Coast Eocene, B (9) 223*f*.
Burton, W. P., Lefrancois, P. A., and Riblett, E. W. Chemical conversion processes using a specially prepared molybdenum oxide catalyst, P (4) 99*h*.
Busch, W. L. Mineral production in Illinois in 1958, (8) 198*i*.
Buser, W. Radiochemical studies on solid compounds (I) isotope exchange experiments in the system solid–solution, (7) 177*e*.
Buser, W., and Imobersteg, U. Radiochemical studies on solid compounds (II) isotope exchange reactions of slightly soluble cobalt compounds, (7) 177*g*.
Bushell, E. Fluidized handling of alumina powder, (7) 166*j*.
Bustillo, J. A. Comparative study of colonial type ceramic roofing tile, (6) 137*f*.
Buten, H. M. Wedgwood and Artists, B (10) 248*h*.
Butler, C. A. Rock crusher [jaw], P (8) 199*g*.
Butler, D. H. Water hardening mixtures, P (2) 29*i*.
Butler, G. M., Jr. Silicon carbide for nuclear reactors, (10) 234*a*.
Butler, G. M., Jr., and Hausner, H. H. (compilers). Data Book on Uranium Dioxide, B (9) 223*j*.
Butler, J. R., and Hall, R. A. Separation of total rare earths and thorium from some multiple oxide minerals, (9) 220*i*.
Butler, K. H. See Thomas, M. J.
Butler, K. H., Homer, H. H., and Rulon, R. M. Electroluminescent phosphors, P (5) 117*h*.
Butler, K. H., Homer, H. H., and Thomas, M. J. Method of coating electric lamp envelopes, P (2) 34*g*.
Butler, K. H., and Rulon, R. M. Method of making electroluminescent phosphors, P (5) 117*i*.
Butler, K. H., and Thomas, M. J. High pressure mercury vapor lamp, P (5) 112*b*.
Butterworth, B. Bricks made with pulverized fuel ash, (1) 7*b*. Contributions to the study of efflorescence (VIII) Camerman theory, (1) 7*e*.
Butterworth, B., and Foster, D. Development of fired-earth brick (IV) brick and brickwork in France, (6) 137*f*; (V) proposals for development in Britain, (6) 137*g*.
Buttler, F. G., and Taylor, H. F. W. Action of water and lime solutions on anhydrous calcium aluminates at 5°C., (7) 168*i*.
Buzágh, A. Stability and thixotropy of montmorillonite suspensions, (5) 127*j*.
Bykova, A. A. See Kapustina, T. P.

Cabot, Godfrey L., Inc. High temperature water resistant lubricating greases, P (1) 18*g*. Method of firing ceramic composition, P (5) 115*i*.
Cach, F. J. Cleaning of biscuit ware with sand, (2) 41*c*.
Caillère, S., Hénin, S., and Esquevin, J. Synthesis of cobaltiferous clays, (7) 180*h*.
Cairola, S. Treating ceramic pieces is not an easy matter, (1) 2*d*.
Cala, C. F. Seeds and fining in optical glass manufacture, (11) 254*j*.
Calhoun, B. A. Magnetic annealing of yttrium iron garnet, (1) 12*c*.
California Institute Research Foundation. Electron probe microanalyzer, P (4) 103*a*.
California Research Corp. Particle separation utilizing a magnetized fluid, P (2) 42*b*.
Calle, M. D. See Dominguez Calle, M.
Calleja, J., and Fernandez Paris, J. M. Complexometric determination of alumina in cement, (7) 154*f*.
Callen, H. B., Harrison, S. E., and Kriessman, C. J. Cation distributions in ferrospinels—theoretical, (4) 100*h*.
Cambel, A. B. See Ducloz, D. P.
Cameron, A. E. Method for producing thin films and articles containing them, P (8) 202*c*.
Cameron, E. N., and Weis, P. L. Strategic graphite, a survey, (11) 268*g*.
Campan, T. I. Determination of the thermal conductivity of poorly conducting materials by a method of contact temperatures, (11) 270*e*.
Campbell, I. E. See Wehrmann, R. F.; Yntema, L. F.
Campbell, W. J. Fluorescent X-ray spectrographic analysis—studies of low-energy K, L, and M spectral lines, (7) 173*e*.
Campbell, W. J., Leon, M., and Thatcher, J. W. Solution techniques in fluorescent X-ray spectrography, (7) 178*h*.
Canadian Pittsburgh Industries, Ltd. Preparation of lead sulfide mirrors, P (8) 190*b*.
Canham, R. G. See Bates, R. G.
Cannon, H. B. Structure for a [slurry] separating apparatus, P (2) 46*a*.
Cannon, J. H., and Bradley, A. L. Basic cupola—its design and operation, (7) 160*c*.
Cano-Ruiz, J. See López Gonzáles, J. de D.
Cantlin, J. H., and Anderson, E. E. Thermocouple harness, P (7) 166*h*.
Capehart, C. W. See Spracklen, S. B.
Carasso, J. L., and Speight, E. A. Methods for the treatment of semiconductor junction devices, P (2) 41*a*.
Caraway, W. H. See Aune, O. A.
Carballido Ramallo, O. See González Carreró, J.
Carborundum Co. Fused cast refractory articles, P (5) 114*g*. Fused cast zirconia-alumina articles, P (3) 62*h*. Metalized ceramics, P (10) 235*c*. Process for producing silicon carbide bodies, P (3) 62*h*. Silicon carbide resistance bodies, P (4) 90*b*, P (10) 238*j*. Spheroidal refractory material, P (7) 162*a*. Thermal shock resistant ceramic body, P (7) 162*j*.
Cardell, J., and Hill, F. T. Control of electron emission in cathode assemblies, P (4) 93*g*.
Cardew, M. Potters of Abuja, (4) 82*e*.
Cariadi, L. See Ciarca, A.
Carlson, B. C. Concrete of improved strength, P (1) 3*d*. Plant-applied silicones can increase sales, (11) 257*g*.
Carlson, B. C., and Betts, W. D. How plant applied silicones affect wall strengths, (11) 257*j*.
Carlson, E. T. System lime–alumina–water at 1°C., (1) 21*b*.
Carlson, W. G., Root, H. D., and Shane, R. S. Pressure-temperature-density relations in several samples of UO_2, (4) 88*d*.
Carnahan, T. D. Color—use and problems (III), (1) 7*d*.
Carney, D. E. Apparatus for producing sheet glass, P (11) 255*f*.
Caroselli, R. F. See Kingsbury, R. N.; Marsocchi, A.
Carothers, T. E. Tile setter loading apparatus, P (9) 213*f*.
Carpenter, G. B. Density of bonding electrons in diamond, (8) 200*f*.
Carpenter, J. H. Magnetic ore separator, P (10) 241*h*.

Carr, P. H., and Foner, S. Magnetic transitions in Ti_2O_3 and V_2O_3. (9) 214*e*.
Carr, R. M., and Fyfe, W. S. Some observations on the crystallization of amorphous silica, (3) 77*h*.
Carreró, J. G. See González Carreró, J.
Carrier, R. M., Jr. Drive for a helical vibratory conveyer, P (7) 165*a*.
Carrier Conveyor Corp. Drive for a helical vibratory conveyer, P (7) 165*a*.
Carrington, D. D. Refractory brickwork in forge furnaces, (11) 259*e*.
Carroll-Porczynski, C. Z. Asbestos from Rock to Fabric, B (4) 103*d*.
Carron, M. K., Mrose, M. E., and Murata, K. J. Relation of ionic radius to structures of rare-earth phosphates, arsenates, and vanadates, (3) 77*a*.
Carson, F. J. Apparatus for producing bent sheets, P (9) 209*a*. Glass bending apparatus, P (7) 158*c*. Method of bending and cutting glass sheets, P (2) 34*c*.
Carson, F. J., and Laine, L. H. Apparatus for bending glass sheets, P (6) 135*i*.
Carson, F. J., and Leflet, H. A., Jr. Method and apparatus for bending glass sheets, P (3) 58*i*.
Carson, J. W., and White, R. L. Paramagnetic resonance of Yb^{+++} in aluminum and gallium garnets, (10) 237*d*.
Carter, C. F., and Williams, B. R. Industry and Technical Progress, B (1) 24*i*.
Carter, P. T. See Hay, R.
Carter, P. T., Murad, A. B., and Hay, R. Ternary system FeO–MnO–SiO_2 (I) oxide orthosilicate slags, (7) 180*i*.
Carter, R. E. Dissociation pressures of solid solutions from Fe_3O_4 to $0.4Fe_3O_4 \cdot 0.6CoFe_2O_4$, (10) 243*j*. See Meiklejohn, W. H.
Carter, R. E., Roth, W. L., and Julien, C. A. Orientation relation between a hematite precipitate and its ferrite host, (1) 13*a*.
Carter, R. T. Process of making refractory shell for casting metal, P (11) 261*g*.
Cartz, L., and Hirsch, P. B. Contribution to the structure of coals from X-ray diffraction studies, (10) 240*e*.
Caruso, P. A. New design data for clay bonded block, (11) 257*f*.
Carver, F. S. Multichamber press, P (5) 118*i*.
Carver, Fred S., Inc. Multichamber press, P (5) 118*i*.
Cary, H. H. Raman spectrophotometer, P (10) 246*b*.
Casius Corp., Ltd. Method for manufacturing reinforced lightweight concrete, P (11) 251*j*. Plaster composition, P (3) 55*d*. Process for manufacturing steam-cured lightweight concrete with low shrinkage, P (1) 3*d*.
Cass, F. R. Thread guides for textile machines, P (10) 236*g*.
Castledine, G. Production of test specimens in refractory materials, (3) 61*g*.
Castner, T., Jr., Newell, G. S., Holton, W. C., and Slichter, C. P. Note on the paramagnetic resonance of iron in glass, (10) 228*b*.
Causley, D. J. See Young, J. Z.
Cauterman, P. A. F. Method of forming uniform uncontaminated iron oxide for pigment and other uses, P (2) 45*j*.
Cavalier, G. Visualizing crystal growth in melts and measuring liquidus temperature to 2300° C. with microscope equipment, (5) 129*a*.
Cecil, T. A. See Powell, M. J.
Cellan-Jones, G. Filtration sludge at waterworks—recovery and treatment as insulating brick or clay refractory, (4) 88*f*.
Cellini, F. R. See Fernández Cellini, R.
Celotex Corp. Drying gypsum wallboard, P (4) 83*d*.
Cementi Elba S.p.A. Conveying apparatus for powdered cement, P (11) 251*g*.
Cementir Cementerie del Tirreno S.p.A. Cooling devices for cement clinkers, P (2) 29*h*.
Centre d'Études et de Recherches de l'Industrie des Liants Hydraulics. Ball crusher, P (9) 216*c*. Bibliography on plaster and its uses, (3) 52*h*.
Centre National de la Recherche Scientifique. Modified ferrites, P (3) 66*g*.
Cerulli, N. F. See Meister, G.
Cesareni, C. See Cova, F.
Chaberski, A. See Mrozowski, S.
Chaiken, B. See Halstead, W. J.
Chaklader, A. C. D., and Roberts, A. L. Relationships between constitution and properties of silica refractories (II) constitution of silica refractories before and after heat-treatment, (4) 88*f*; (III) effect of heat-treatment on the mechanical properties, (4) 88*g*. Sintering of quartz crystal, (2) 47*f*.
Chamova, V. N. See Vol'nov, I. I.
Champagne, M. S. See Coes, L., Jr.
Champion, P. C., and Prior, J. R. Effects of pressure on some optical and electrical properties of diamonds, (3) 74*a*.
Champion Spark Plug Co. Ceramic spark plug insulator, P (11) 261*j*. Composite glass seal, P (8) 180*b*. Spark plug insulators containing stannic oxide, P (5) 116*a*.
Chan, A. D. H., and Lambert, R.-E. Method of tempering glass, P (4) 87*b*.
Chandler, H. P. Mineral Facts and Problems (preprints): Diamond—industrial, (6) 146*b*; garnet, (6) 146*b*.
Chandler, H. P., and Brett, B. A. Jewel bearings, (6) 145*h*.
Chandler, H. P., and Tucker, G. E. Abrasive materials, (6) 145*f*.
Chang, H. C. See Kroko, L. J.
Chang, R. Creep of Al_2O_3 single crystals, (10) 243*e*.
Chang, Te Tse. See Berreman, D. W.
Chanter, A. J. Work study in the glazed pipe industry, (1) 7*f*.
Chapelle, J. Influence of pozzolanic fly ash on the permanency of Portland cement concrete, (5) 107*a*.
Chapin, H. M. See Sellers, F. B.
Chapler, J., Jr. Construction of multiple tube cyclone dust collector, P (2) 42*b*.
Chapman, C. W. See Lewis, D. R.
Charbonnages de France. See Etablissements Neyrpic.
Charbonnages de France and Etablissements Neyrpic. Process [fluid] and apparatus for the separation of solid particulate materials of different densities and/or different particle size, P (11) 269*i*.
Charbonnet, W. H. Method for growing quartz, P (4) 103*a*.
Charcuset, R., and Moyrand, J. Material feeding hopper, P (4) 95*b*.
Charleston, R. J. Notable London collection of glass, (3) 52*g*.
Charmbury, H. B., and Lovell, H. L. Comeback of the silica brick industry, (11) 258*g*.
Charrière, J. Prefabricated brick structure elements and their application—Costamagna system A. Blanquet, (5) 113*a*.
Charrin, V. Subsoil resources of Haute-Ariège, (4) 98*b*.
Chartier, A. G. See Kardas, R. S.
Chatterjee, N. B. See Banerjee, J. C.
Chatterji, S., and Lahiri, D. Degree of hydration and strength of slag cements, (8) 185*j*.
Chellew, N. R. See Feder, H. M.
Chemetron Corp. Catalyst manufacture, P (4) 99*f*.
Chemie und Metall Handelages. m. b. H. Apparatus for the selective separation of granular material distributed in liquids, P (10) 239*h*.
Chemische Werke Albert. Process for the manufacture of aluminum phosphate, P (7) 168*c*.
Cheney, J. E. Die, P (11) 265*j*.
Cheng, K. L. Determination of titanium with cupferron—EDTA as masking agent, (7) 171*d*. See Lott, P. F.
Cherevatenko, L. V. Rapid drawing of plate glass, (9) 208*d*.
Chernozubov, S. A., Morozov, N. V., and Syritskii, P. L. Experiments on the production of thin-walled brick panels, (3) 60*a*.
Chernushkin, I. T. See Zhuravskii, N. K.
Chernykh, V. I. See Borzenkova, M. P.
Cherry, N. H. Testing apparatus, P (7) 166*a*.
Cherry-Burrell Corp. Cyclone discharge chamber, P (4) 95*c*.
Chessin, N. See Ringwood, A. F.
Chester, A. E., and Stella, J. P. Corrosion preventing coatings, P (9) 205*g*.
Chi, A. R. See Stanley, J. M.
Chicago Fire Brick Co. Radiant wall furnace, P (4) 89*i*.
Chicago Pottery Co. Method of making hollow-walled flush tanks, P (11) 262*g*.
Chicago Wheel & Mfg. Co. Abrading wheels, P (3) 51*h*.
Chiou, C. See Fine, M. E.
Chisholm, H. E. Magnesium oxychloride cements, P (10) 226*d*.
Chmieleński, J. Principles of polishing flat glass, (1) 5*a*.
Chollar, R. G. Research challenges the engineer, (9) 222*f*.
Chorbacher, W. See Ziese, W.
Choshi, I. See Kato, E.; Okuda, H.
Christ, C. L. See Ross, M.
Christensen. Possibilities of the surface treatment of brick, (2) 34*j*.
Christensen, A. U. See Kelley, K. K.
Christensen, C. C., and Prater, J. D. Liquid-liquid extraction process for the recovery of high purity thorium oxide, P (11) 268*h*.
Christiania Spigerverk. Electrode installation for electric furnaces, P (3) 69*g*.
Chuprinin, F. I. See Ivanov, E. V.
Chvalovský, V. See Rathouský, J.
Chyle, J. J., and Zimmermann, M. W. Ceramic welding back-up strip and method of applying, P (4) 89*g*.
Chynoweth, A. G. Surface space-charge layers in barium titanate, (11) 263*b*.
Ciaroa, A., and Cariadi, L. Polarographic determination of selenium in signal glass, (3) 57*e*.
Cierva, P. de la, and Andrés, F. de. Crystallization of silica on polished glass surfaces, (7) 156*d*.
Cincinnati Milling Machine Co. Abrasive wheel composition, P (10) 225*f*.
Cini, L., and Vivante, C. Ceramic materials for nuclear energy—beryllium oxide, (4) 98*e*.
Clabaugh, W. S., and Jackson, A. Separation and determination of phosphate, silicate, and arsenate, (2) 47*c*.
Claffy, E. W., and Ginther, R. J. Red-luminescing quartz, (3) 77*g*.
Claisse, F. Sample preparation techniques for X-ray fluorescence analysis, (9) 220*g*.
Clark, J. L. Multicored die cuts brick weight, (11) 257*f*. See Whitney, G. C., Jr.
Clark, J. W., and Wilson, L. R. Nucleonic X-ray apparatus, P (7) 182*b*.
Clark, L. B., Sr. Electrically conductive films and method for producing, P (1) 6*h*.
Clark, L. C., Jr. Electrochemical device for chemical analysis, P (4) 102*j*.
Clark, W. Annealing glass containers by radiant heat, (8) 187*i*.
Clausen, C. F. Low-alkali cement from high-efficiency kilns? (6) 132*i*.
Clauss, A., Boehm, H. P., and Hofmann, U. Investigations on the adsorption and catalytic activity of soot surfaces, (1) 20*d*.
Claussen, W. F. Method of vapor coating, P (3) 59*f*.
Clay, W. Progress report on low temperature porcelain enameling, (1) 3*f*.
Claypoole, S. A. See Blanding, W. S.
Clayton, C. G. Use of radioactive isotopes (I) engineering applications; (II) metallurgical applications, (2) 45*b*.
Clayton, J. E. See Price, J. H.
Cleary, J. R. See Wurzburg, F. L., Jr.
Clease, A. C. D. Conveyer for glass, (7) 156*c*.
Cleek, G. W., and Scuderi, T. G. Effect of fluorides on infrared transmittance of certain silicate glasses, (1) 4*e*.
Cleek, G. W., Villa, J. J., and Hahner, C. H. Refractive indices and transmittances of several optical glasses in the infrared, (2) 31*j*.
Cleland, R. L. See Debye, P.
Clementina, Ltd. Control system for sandblasting equipment, P (10) 226*j*.
Clements, J. F., and Davis, W. R. Sonic spalling test, (11) 272*b*.
Cleper, C. See Braniski, A.
Cleveland, G. B. See Kelley, F. R.
Cleveland, H. M. See Becker, E. J.
Clevenger, T. R., Jr. See Economos, G.
Clever, W. R. Method of and apparatus for transferring sheet material, P (2) 34*b*.
Clevite Corp. Capacitor of high permittivity ceramic, P (10) 238*d*. Ferroelectric ceramic composition, P (4) 93*c*. Method of forming ceramic capacitors, P (5) 117*f*. Method for growing quartz, P (4) 103*a*. Method of growing quartz single crystals and seed body therefor, P (6) 149*b*, P (6) 149*c*. Method of growing synthetic quartz, P (9) 222*b*. Method of producing small semiconductor silicon crystals, P (9) 214*g*. Polarization of titanate ceramics, P (9) 214*j*. Titanate ceramic compositions and articles, P (5) 118*a*.
Clews, F. H. See Noble, W.
Clifford, J. S. Method of making hollow-walled flush tanks, P (11) 262*g*.
Cline, C. F., and Sands, D. E. New silicon boride, SiB_4, (6) 146*c*.
Clipper Mfg. Co. Equalizer structure for masonry saws, P (7) 165*b*.
Cluley, H. J. Determination of potassium oxide in glass, (1) 4*i*.
Cmolik, C. G. See Kulcsar, F.
Coal Industry (Patents), Ltd. Apparatus for counting particles, P (11) 266*j*.
Coated Abrasives Manufacturer's Institute. Coated Abrasives—Modern Tool of Industry, B (2) 49*e*.
Coates, J., and Pressburg, B. S. How to solve problems in fluid flow, (4) 101*c*.
Cobaugh, G. D., and Hauth, C. R. Application of monolithic refractories in steel plant equipment, (5) 113*b*.
Cobb, C. M. See Mason, E. A.
Coberly, C. J. Ceramic checker and assembly thereof, P (9) 212*f*.
Cocco, A. Investigations of the systems BeO–TiO_2, BeO–ZrO_2, and ZrO_2–TiO_2, (11) 271*c*. Investigation of the ternary system BeO–TiO_2–ZrO_2, (11) 270*j*. Investigation of the ternary system MgO–FeO–Fe_2O_3, (11) 271*a*.
Cochran, C. J., Lawson, P. C., and Wright, T. G. Machine for preparing composite assemblies [of laminated safety glass], P (6) 136*h*.
Cochrane, J. D., III, Ott, J. W., Staffin, H. K., and Stuart, J., II. Slurry feeding and measuring apparatus, P (4) 96*a*.
Cockbain, A. G., and Johnson, W. Examination of used chrome-magnesite refractories by petrological and X-ray techniques, (10) 232*c*.
Codling, K. See Garton, W. R. S.
Codman, F. L. & J. C., Co. Radial face rotary buffing element, P (4) 81*j*. Rotary abrasive element, P (1) 1*h*.
Coes, L., Jr., and Champagne, M. S. Grinding wheel structure, P (11) 249*i*.
Coffin, L. B. See West, R. R.
Coffman, P. A., Jr., and Harper, L. E. Gravimetric screw type feeders and weighers, P (1) 14*d*.
Coggins, D. I. Semiconductor devices and methods, P (2) 41*a*.
Coghill, H. D. Burn-resistant phosphors, P (9) 209*a*.
Cohen, A. J. Neutron specific color center in fused silica and an impurity band of identical wave length, (4) 85*c*. See Rice, R. V.
Cohen, A. J., and Sumner, G. G. Relationships among impurity contents, color centers, and lattice constants in quartz, (3) 77*b*.
Cohen, M. H. Molecular transport in liquids and glasses, (5) 110*f*. See Turnbull, D.
Cohen, S. See Garino-Canina, V.
Colbert, W. H., and Morgan, W. L. Light transmissive electrically conducting article, P (11) 256*c*.
Cole, W. F. Some aspects of the weathering of terra-cotta roofing tile, (2) 34*j*. See Demediuk, T.
Colgate-Palmolive Co. Abrasive detergent compositions, P (11) 249*h*.
Collins, D. M., and Boller, E. H. Mica flat handling systems, P (9) 214*h*.
Collotti, G., Conti, L., and Zocchi, M. Structure of the orthorhombic modification of lead chromate, $PbCrO_4$, (7) 179*e*.
Columbia Products Co. Apparatus and method for producing tapered glass rods, P (5) 111*d*.

Columbia-Southern Chemical Corp. Calcination of barium carbonate, P (4) 99*d*. Fertilizer composition containing calcium silicate, P (2) 45*f*. Method of densifying and pelletizing alkaline earth metal silicates, P (8) 198*h*. Method of preparing a finely divided alumina-silica pigment, P (6) 146*e*, P (11) 269*a*. Method of preparing pigments, P (7) 167*a*. Method of preparing silica pigments, P (10) 241*g*, P (11) 269*b*. Method of producing silica, P (4) 100*b*. Paper pigments, P (10) 242*g*. Pigmented paper, P (10) 242*h*. Process for preparing zirconium chlorides, P (8) 199*a*. Production of alkaline earth metal silicates, P (3) 72*a*. Silica composition, P (3) 72*e*, P (10) 242*h*. Silica precipitation method, P (6) 147*c*.

Columbian Carbon Co. Manufacture of ferric oxide, P (9) 218*g*. Manufacture of iron oxides, P (10) 241*i*. Method of casehardening carbon black pellets, P (2) 45*j*. Method for producing zinc ferrite pigment, P (2) 45*c*.

Colwell, J. D. Phosphate sorption by iron and aluminum oxides, (7) 176*i*.

Combs, C. M. See Berry, C. R.

Combustion and Explosives Research, Inc. Glass fiber production, P (7) 158*h*.

Comeforo, J. E. See Shell, H. R.

Comensoli, I., and Mansini, L. Vibrating conveyers, P (9) 216*d*.

Comer, J. J. Electron microscope studies of mullite development in fired kaolinites, (8) 200*b*. See Bates, T. F.

Comer, R. L. Composition for glass-to-metal seal, P (11) 255*b*.

Commissariat à l'Energie Atomique. Method of sealing a piece in one end of a tube made of a sintered material, P (5) 118*k*. See Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques.

Commons, C. H., Jr. Glass colorant composition, P (6) 134*a*.

Commonwealth Engineering Co. of Ohio. Apparatus for forming solid structural members of glass fiber reinforced resin, P (10) 230*a*. Low water loss cement slurries comprising carboxymethyl dextran and salts thereof, P (2) 29*a*. Precision vapor or sand blasting machines, P (1) 14*g*.

Commonwealth Scientific and Industrial Research Organization. Hygrometers, P (1) 14*d*.

Compagnie Générale de Télégraphie sans Fil. Oxide coated cathode supports, P (7) 156*a*.

Compagnies Réunies des Glaces et Verres Spéciaux du Nord de la France. Manufacture of glass, P (2) 33*f*. Method and apparatus for continuously drawing a glass sheet, P (7) 159*b*.

Comte, J. M. A. Nonpressure hydrator for normal and dolomitic limes, (3) 54*j*. Russia gets world's largest cement kilns, (3) 54*g*.

Conaway, H. L. Techniques for the metallography of porcelain-enameled steel, (2) 30*j*.

Concilio, C. B. See McAtee, J. L., Jr.

Conde, C. S. See Sánchez Conde, C.

Condolios, E. Process and apparatus for the sorting of solid products, P (11) 269*h*. See Belugou, P.

Condolios, E., and Belugou, P. Process [fluid] and apparatus for the separation of solid particulate materials of different densities and/or different particle size, P (11) 269*j*.

Condon, E. U., and Odishaw, H. (editors). Handbook of Physics, B (1) 23*i*.

Condoyannis, G. E. Scientific Russian, B (2) 50*i*.

Conn, W. M. Welding ceramics, (5) 107*h*.

Connolly, L. V., Jr. See Seats, P.

Connolly, T. J. See Wray, K. L.

Connor, P., Hardwick, W. H., and Laundy, B. J. Determination of particle size by β-backscattering, (7) 171*a*. Determination of the particle size of thoria in the range 5 to 0.1 μ by the radiometric sedimentometer, (8) 200*f*.

Connor, W. G. See Shaw, R. B.

Consolidated Electrodynamics Corp. Vitreous enamel, P (4) 84*b*, P (6) 134*c*.

Consolidation Coal Co. Shaped porous semiconducting compositions of lithiated nickel oxide, P (4) 98*c*.

Constantinescu, V. N. Combustion within a moving gas mixture, (2) 43*i*.

Conti, L. See Collotti, G.

Contini, R., and Bryant, P. T. (editors). Engineering College Research Review 1959, B (5) 130*d*.

Conveyor Co. Vibrating screen, P (4) 96*d*.

Conway, R. D., and Messinger, W. Cone crushing mechanism, P (2) 45*e*.

Conway, W. S. See Grauer, O. H.

Cook, C. Art and artists of the Battersea enamel wine label, (2) 27*j*.

Cook, R. L. See Nelson, K. E.

Cook, R. M. Greek Painted Pottery, B (7) 182*g*.

Cook, V. Method of treating sea water, P (8) 193*a*.

Cooke, P. Ultrasonic lens generators, P (10) 231*c*.

Cooper, A. R., Jr. Effect of aspect ratio and viscosity gradients on flow through open channels, (3) 56*h*.

Cooper, C. F., and Kitchener, J. A. Foaming of silicate melts, (3) 60*j*.

Cooper, D. G. Combustion control apparatus and proportioning device for fuel and air, P (8) 198*a*.

Cooper, J. D. Mineral Facts and Problems (preprints): Kyanite and related minerals, (7) 167*b*.

Cooper, R. H. Carbon-free shell molds, P (8) 192*b*. Shell mold composition, P (4) 90*a*.

Cope, W. E. See Gould, R. E.

Copeland, R. S. C. Developments in printing as used in the decoration of pottery, (3) 63*f*.

Copenhagen, W. J. See Lewis, D. A.

Copp, K. W. See Baden, T. A.

Coppola, P. P. Thermionic dispenser cathode, P (1) 14*a*.

Corban, W. H., and Davidson, A. W. Tile setter, P (11) 262*f*.

Corbin, R. B. Crystal oven, P (8) 194*j*.

Cordon, W. A. Evaluation of concrete and mortar mixes, (11) 251*a*.

Corey, A. F. See Heinrich, E. W.

Corliss, L. M. See Hastings, J. M.

Corning Glass Works. Aperture mask coating to prevent cathode poisoning, P (3) 57*d*, P (10) 237*j*. Cathode-ray tube manufacture, P (7) 158*b*, P (9) 209*c*. Coated illuminating glassware, P (2) 32*f*. Dip coating machine, P (10) 230*d*. Electrical resistor, P (4) 93*i*, P (8) 195*b*. Electric glassworking, P (2) 32*j*. Glassmaking material and method, P (8) 189*b*. Glassworking machine, P (2) 33*a*. Image orthicon target, P (2) 33*d*. Lamp manufacture, P (11) 256*a*. Linear body gauging, P (4) 86*g*. Low expansion ceramic body, P (5) 115*g*. Manufacture of a windowed article, P (11) 256*g*. Method of making ceramics, P (6) 142*a*. Method of making a semicrystalline ceramic body, P (8) 190*a*. Method of producing a photograph in glass, P (2) 34*a*. Method of vapor coating, P (3) 59*f*. Opal glass, P (6) 137*c*. Photograph made on glass, P (4) 87*d*. Resistor, P (4) 94*f*. Sheet glass manufacture, P (1) 6*i*. Sintered or bonded ceramic refractory body, P (5) 114*f*.

Cornuault, P. See Legendre, A.

Corrin, M. L. Method of impregnating mica paper with an alkyl orthotitanate, P (11) 264*a*.

Corson, G. & W. H., Inc. Method of handling lime, P (6) 133*c*.

Coryell, C. D. Process of oxidizing plutonium, P (1) 21*j*.

Costa, H., and Falke, F. Simple Lepol kiln computer for the automation of cement production, (4) 97*e*.

Costa, H., and Petermann, K. Investigation of material movement and dust formation in rotary cement kilns by the use of radioactive isotopes (I, II), (2) 28*i*; (III), (6) 132*h*.

Costick, R. J., and Schafer, H. N. S. Determination of phosphorus in coal ash, (2) 43*j*.

Cotter, P. G. Microhardness of aluminum boride monocrystals, (3) 76*e*.

Cotton, F. A. (editor). Progress in Inorganic Chemistry (Vol. I), B (9) 224*i*.

Courtault, B., and Longuet, P. Accurate determination of aluminum in raw materials and products of the cement industry, (5) 106*d*.

Courtenay, F., and Parenti, E. K. Carborundum expands economically, (11) 264*h*.

Cova, F., De Amicis, S., and Cesareni, C. Cooling devices for cement clinkers, P (2) 29*h*.

Cover, M. L. Method and apparatus for separating usable particles from collecting liquid, P (4) 95*j*.

Covert, K. B., Park, R. W., and Brist, U. M. Plastering material, P (8) 186*g*.

Cowan, C. T. See White, D.

Cowan, G. A. Salicylate process for thorium separation from rare earths, P (1) 22*a*.

Cowden, L. M., and Hendry, J. M. Method of and apparatus for powder clutriation, P (10) 239*g*.

Cowling, K. W. See Aldred, F. H.

Cowling, K. W., Elliott, A., and Hale, W. T. Note on the relationship between bulk density and thermal conductivity in refractory insulating brick, (1) 8*e*.

Cox, C. T. Brake material for extreme heavy duty, P (1) 9*i*.

Cox, J. E. See McIntosh, J. J.

Cox, J. E., Gerstner, D. M., and O'Rourke, H. M. Viscosity measurements of porcelain enamel ground coat frits, (4) 84*e*.

Cox, R. W., and Williamson, W. O. Differential shrinkage of clays and bodies caused by particle orientation and its significance in testing procedure, (7) 171*j*.

Coxon, R. H. Practical work study in pottery, (1) 11*b*.

Cozine, H. E. See Dapp, R. J.

Craig, B. G. Guideposts in enameling thick stock, (1) 3*f*.

Cramer, J. W., and Osburn, C. L., Jr. Drier temperature control, P (8) 198*a*.

Cramer, R. H. Preparation of chromia-copper oxide hydrogels, P (5) 121*e*.

Cramer, R. H., and Jenkins, E. E. Preparation of alumina gels, P (1) 18*j*.

Crandon, A. S., Jr. Apparatus for drawing sheet glass, P (3) 57*h*. Manufacture of sheet glass, P (7) 158*j*.

Craven, B. R., and Green, J. H. Exchange capacities of some Sydney [Australia] soils for strontium ions [by use of a radioisotope in a continuously recording apparatus], (7) 173*a*.

Cremens, W. S., and Grant, N. J. Preparation and high-temperature properties of nickel-Al_2O_3 alloys, (8) 191*d*.

Cremer, G. D. See Onstott, E. I.

Cress, J. J., Co. of New Jersey. Potter's wheel and mechanism, P (3) 52*e*.

Cressman, G. W. Coating composition for electric lamp, P (5) 111*f*.

Cretin-Maitenaz, B. Machine for grinding an optical surface in a piece of refractive material, P (4) 86*h*.

Creutz, E. C. Refractory die for extruding uranium, P (1) 10*b*.

Crochon, E. Machine for the manufacture of pottery "fuses," P (5) 117*d*.

Crocker, W. S. See Lemmerman, H. H. P.

Croft, G. M. Jet pulverizer, P (8) 196*e*. Particle mill system, P (5) 121*e*.

Croft, G. M., Fisher, A. J., and Billos, W. Impact mill, P (8) 198*g*.

Croft, W. J. See Greifer, A. P.

Croke, J. P., and Kiley, W. R. Determination of iron, calcium, silicon, aluminum, and magnesium in finished and raw mix cement samples using the Noreico Autrometer, (7) 171*h*.

Crosby, G. E., Smith, A. L., and Whitmer, La V. E. Activated alumina dominated phosphors, P (5) 117*a*.

Cross, A. H. B. Factors affecting the significance of refractoriness under load, (3) 60*g*.

Crouse, W. A. See Roberts, A. G.

Crown Mines. Eroding of hard crystalline carbon, P (10) 239*b*.

Crump, C. W. See Foust, A. S.

Crump, R. E. Solid lubricant films having vitreous enamel binders, P (3) 56*a*.

Csordás, I., Lanyi, B., Veress, Z., and Vissy, L. Sintered alumina articles, P (11) 262*d*.

Cubberley, M. H. Apparatus for treating sodium silicate to produce a silica sol, P (9) 216*c*.

Cullor, G. D. See Arkoosh, G. T.

Cummings, H. B. Dishware decorating [multiple station] machine, P (11) 262*b*.

Cummins, R. K. Quartz working, P (7) 168*e*.

Cunningham, J. R., Jr. See McDuffie, G. R., Jr.

Cunningham, J. R., Jr., and Anderson, E. E. Samarium substitutions in yttrium iron garnet, (10) 237*g*.

Curlet, A. S. Cementing composition, P (10) 226*b*.

Curran, D. R., Gerber, W. J., and Lungo, A. Housing for ceramic ladder filter, P (7) 164*g*.

Curtiss-Wright Corp. Apparatus for analyzing weight composition of materials, P (11) 265*e*. Method and apparatus for forming refractory articles, P (9) 212*d*.

Cushman, A. G. Rock crusher, P (10) 242*f*.

Cushman, J. F. Rock crusher, P (10) 242*f*.

Cusi, D. S. Vibratory mechanism, P (9) 216*e*.

Custers, J. F. H., Dyer, H. B., and Wedepohl, P. T. Polishing hard crystalline carbon, P (8) 185*f*.

Cutler, I. B. See Jorgensen, P. J.

Cypres, R. See Keyser, W. L. de.

Cyr, H. M., and Hafford, B. C. Treatment of zinc oxide, P (10) 242*i*.

Czedik-Eysenberg, F. History of magnesite, (1) 17*j*.

Czerch, W. See Hofmann, U.

Czuha, M., Jr. See Thayer, L. C.

Czyzak, S. J. See Reynolds, D. C.

Dadape, V. V. See Wang, K.-C.

Dahlin, C. W. Processing of dicalcium phosphate and composition thereof, P (10) 242*b*.

Dahlstrom, D. A., and Emmett, R. C. Method of dewatering foundry sand slimes, P (10) 241*d*.

Dailey, M. C., and Johnson, E. S. Process for the production of high strength low consistency calcined gypsum, P (5) 108*c*.

Dain, F. L. See Sivchikova, M. G.

Dale, R. S. Report of committee activity on specifications for architectural porcelain enamel on steel, (5) 108*f*.

Dalton, E. T. Apparatus and method of forming ophthalmic lenses, P (8) 188*f*.

Dalton, H. R. Modified titanium dioxide, P (10) 242*e*.

D'Altroy, F. A., and Pondy, P. R. Gas seal, P (4) 91*b*.

Daman, A. C. Methods and apparatus for comminuting ores, P (11) 269*d*.

Damm, L. Bricklaying—symbols—brick checkerwork structure (VII), (2) 34*h*.

Damon, P. E., and Kulp, J. L. Excess helium and argon in beryl and other minerals, (3) 74*b*.

Dan, G., and Protopopescu, A. Electrical resistance as measure of the degree of sintering, (5) 116*d*.

Dancy, W. H., Jr. See Parker, H. M.

Dandliker, W. B. See Bonnelycke, B. E.

D'Andrea, J. B. Ceramic composition and article, P (7) 164*b*.

Danforth, C. A. See Minnick, L. J.

Daniel, W. A., and Gauld, B. B. Activation of ferroelectric materials, P (7) 164*a*.

Daniels, R. S. See Keutgen, W. A.

Danner, H. See Shirane, G.

Danner, J. D., and Rogers, G. Lens coating apparatus and process, P (4) 86*f*.

Dapp, R. J., and Cozine, H. E. Glass tube and cane gauging and sorting apparatus, P (2) 33*a*.

Dargie, R. E. Lens surfacing machines, P (5) 112*d*.

Darling, R. F. Cylindrical furnaces, P (4) 97*i*.

Darrah, W. A. Methods of dust and fume disposal, (6) 149*e*.

Datta, S. K. Spectrophotometric determination of thorium with 2-(4-carl, xy-3-hydroxyphenylazo)-1,8-dihydroxy naphthalene - 3,6 - disulfonic acid, (7) 179*i*. Spectroohotometric determination of zirconium with 2-(4-sulfonaphthylazo) - 1,8 - dihydroxy - 2' - nitrosonaphthalene - 3,6 - disulfonic acid, (5) 127*h*. Ultraviolet spectrophotometric determination of thorium with 2,4-dichlorophenoxyacetic acid, (3) 78*i*.

Davall, C. R. See Keutgen, W. A.

Davenport, S. T. E. Trials on a roofing-tile works (I) vacuum mixer, (3) 60*c*; (II) underfeed stokers, (3) 60*a*.

Davenport, S. T. E., and Farrington, N. W. Reabsorption, (3) 60*b*.

David, P., Pope, J. A., and Paine, R. T., Jr. "Sê Ch'ing Tai Fên Hung" of the Southern Sung Kuan-yao: Correspondence, (1) 2*a*.

Davidson, A. M., and Rashin, G. A. Service of fire-clay refractory in tube furnaces for secondary firing of Fainshtein, (8) 192*c*.
Davidson, A. W. See Corban, W. H.
Davidson, C. R., Jr., Malobicky, R. L., and McKelvey, H. E. Treating glass sheets, P (10) 231*d*.
Davies, B. Chemically bonded basic refractory, P (11) 260*f*.
Davies, D. A. Two thermocouples suitable for measurement of temperatures up to 2800°C., (5) 119*c*.
Davies, D. E., and Hopkins, B. J. Cathode work function, sparking potentials, and secondary ionization coefficients for oxide-coated cathodes in hydrogen, (4) 91*i*.
Davies, J. B. Ring molds for casting glass [telescope] disks, P (9) 210*a*.
Davis, F. E., and Krane, B. F. Apparatus for feeding [traveling grate] sintering machine, P (8) 197*g*.
Davis, G. G. J. Apparatus for the manufacture of Portland cement, lime, etc., P (11) 251*j*.
Davis, H. S., and Borge, O. E. High-density concrete made with hydrous-iron aggregates, (3) 53*j*.
Davis, J. A. Coated phosphor particles, P (5) 117*g*.
Davis, J. K. Electrical resistor, P (4) 93*i*, P (8) 195*b*.
Davis, W. R. See Clements, J. F.
Davis, W. R., and Richardson, H. M. Effects of alkali salts on CO attack, (10) 232*a*.
Davis, W. R., and Rigby, G. R. Dissociation of carbon monoxide by iron compounds, (2) 46*h*.
Day, P. P. See Primak, W.
De Amicis, S. See Cova, F.
Dean, G., and Jones, P. R. Factorial design of experiments in ceramics (II), (7) 182*c*.
Dean, J. A. See Eschelman, H. C.
Deans, R. See Siesser, C. G. M.
Dearden, J. Electrical resistors, P (5) 117*f*.
Deaver, G. L. Method and apparatus for separating particles in a fluid dispersion, P (7) 167*j*.
De Beers Consolidated Mines, Ltd. Polishing hard crystalline carbon, P (8) 185*f*.
Debras, J., and Voinovitch, I. A. Determination of alkalis in silicates by flame photometry, (5) 124*c*. Spectrophotocolorimetric test for iron in silicates by sulfosalicylic acid, (5) 127*i*.
Debye, P., and Cleland, R. L. Flow of liquid hydrocarbons in porous Vycor, (7) 173*f*.
Deeg, E. Relation between fine structure and mechanicoacoustic properties of simple silicate glasses (I–IV), (9) 208*f*.
Deem, B., and Sullivan, J. D. Ceramic statistics, (4) 103*c*.
Deem, H. W. See Lucks, C. F.
Deffeyes, K. S. Erionite from Cenozoic tuffaceous sediments, central Nevada, (6) 147*i*.
Degering, E. F. See Barber, S. W.; Mike, T. M.
De Geyndt, E., and Angenot, P. Evaluation of the hot "vitreous phase," (7) 160*g*.
Deible, W. B., and Youkers, H. A. Recirculating furnace, P (11) 256*i*.
Deica, N. Manufacture of refractory cements in Romania, (2) 36*a*.
Deininger, J. Economy packaging of brick, pipe, and tile, (11) 257*g*.
Delaney, R. M. See Breen, R. J.
Dell, H. A., and Snelling, M. A. Flying spot scanning system for particle counting apparatus, P (1) 15*f*.
Delmonte, J. Epoxy bonding for clay pipe, (11) 257*h*.
De Long, A. R. Laboratory vessel, P (11) 250*f*.
Demachi, S. See Hayashi, E.
Demag-Elektrometallurgie G.m.b.H. Electrode attaching device for electric arc furnaces, P (1) 16*e*.
De Maria, G. See Drowart, J.
DeMaria, V. C. Vacuum fabricated glass tubing, (11) 254*d*.
Demediuk, T., and Cole, W. F. Contribution to the study of moisture expansion in ceramic materials, (8) 199*j*.
Deming, L. S. Selected bibliography of statistical literature, 1930 to 1957; (I) correlation and regression theory; (II) time series, (6) 149*h*.
Demishev, G. E. Apparatus for determining the elastic constants of glass and ceramics, (1) 14*j*.
Dempster, A. N., and Nelson, W. K. Method for wet milling rutile pigment, P (8) 198*i*.
Denelsbeck, D. See Russell, R. G.
Denman, R. R., and Trudeau, U. P. Machines for press molding hollow glassware, P (3) 58*g*.
Dennis, G. P. Feeding of granular materials capable of flowing, P (8) 196*a*.
Denton, E. P., and Rawson, H. Metalizing of high-Al_2O_3 ceramics, (7) 163*e*.
Denton, I., and Murray, P. Note on grain growth in fabricated beryllia, (11) 258*j*.
Denver Equipment Co. Methods and apparatus for comminuting ores, etc., P (11) 269*d*.
De Paolis, P. F. Fluoborate glass, P (8) 189*e*.
Deplus, C. Post-deformation during drying, (5) 118*f*. See Baudran, A.
Dergane, W. Pyrometer, P (6) 144*i*. See Howell, S. N.
Derii, I. S., and Gritsaenko, V. Ya. Rapid firing of steel-pouring refractories in gas fired annular kiln, (1) 9*f*.
De Santis, V. J., and Affleck, J. H., III. Thermionic cathodes, P (11) 264*e*.
De Santis, V. J., Manfredi, R. E., and Nolte, H. J. Methods of manufacturing evacuated and gas-filled devices, P (8) 190*c*.
Desarco Corp. Color harmony selection assembly, P (11) 250*f*.
Desbois, T. J. Pallet, P (5) 121*d*.
Dess, H. M. Purification of titanium tetrachloride, P (7) 168*d*.
Destriau, G. Electroluminescent cell, P (2) 40*e*.
Deutsche Erdöl-A.G. Method for producing catalysts, P (2) 45*b*.
Deutsche Gold- und Silber-Scheideanstalt vorm. Roessler. Tungsten–rhenium thermocouples, P (11) 260*h*.
Devore, G. C. Treating glass sheets, P (10) 231*a*.
DeVore, G. W. Surface chemistry of feldspars as an influence on their decomposition products, B (9) 223*c*.
DeVries, R. C. Lowering of Curie temperature of $BaTiO_3$ by chemical reduction, (5) 125*d*. Observations on growth of $BaTiO_3$ crystals from KF solutions, (1) 20*i*. See Sears, G. W.
DeVries, R. C., and Moehle, C. F. Transparent crucible material for high temperatures, (7) 161*e*.
DeVries, R. C., Roy, R., and Osborn, E. F. System TiO_2–SiO_2, (2) 48*c*.
Dewald, W. See Huber, H.
Dhar, R. N., Mandal, S. S., and Roy, S. B. Electrical properties of Indian mica—d.-c. resistivity, (4) 98*f*.
Diamond, H. L. See Zandberg, P. I.
Diamond, J. J. See Walker, R. F.
Diamond, J. J., and Schneider, S. J. Apparent temperatures measured at melting points of some metal oxides in a solar furnace, (2) 46*c*.
Diamond, R. X-ray studies of some carbonized coals, (5) 120*d*.
Diamond Alkali Co. Alkali metal aluminates, P (7) 167*e*. Alkali metal silicate binder for foundry sand molds and process, P (3) 62*d*. Binder for foundry molds, P (7) 161*b*. Chemical apparatus, P (11) 265*g*. Chemical composition and process, P (4) 99*g*. Electrically conductive glass composition containing suboxides of titanium, P (8) 189*c*. Method of producing finely divided $CaCO_3$, P (10) 241*i*.
Diaz, R. B. Abrasive detergent compositions, P (11) 249*h*.
Di Bernardo, A. See Wurzburg, F. L., Jr.
Dichter, J. Machine for the manufacture of small glass bottles, etc., from glass tubes, P (9) 209*a*. Means for producing openings of predetermined size on glass bodies, P (5) 112*f*.
Dickey, R. C. Furnace, P (7) 166*g*.
Didier-Werke A.G. Bonded-wall structure for coke-oven chambers, P (9) 217*f*.
Dienes, G. J. See Antal, J. J.
Dietrich, W. F., and Gwinn, G. R. Mineral Facts and Problems (preprints): Quartz crystal, (6) 146*b*.
Dietrich, W. F., and Irving, D. R. Refractory materials program of the Federal Bureau of Mines, (2) 36*g*.
Dietz, H. W. Decorative mosaic on flat and curved surfaces, (9) 203*i*. Glaze sgraffito on vessels and plates, (9) 203*k*.
Dietz, K., and Lorentz, G. M. R. Self-hardening alkali- and acid-proof water glass cements capable of swelling, P (11) 252*e*.
Dietz, W. See Fischer, W.
Dietzel, A. Porcelain as the focus of the oxide materials, (2) 49*b*. See Meyer, H.
Dillon, E. T. See Turner, F.
Dillon, J. F., Jr. Ferrimagnetic resonance in yttrium iron garnet, (4) 92*i*. Single crystal inductor core of magnetizable garnet, P (9) 215*a*.
Dimitroff, J. M., and Swanson, D. W. Improved technique for coating integrating spheres with magnesium oxide, (2) 31*c*.
Dings Magnetic Separator Co. Wet separator, P (4) 96*d*.
Dinnie, A. See Richards, R.
Dinnie, A., Beard, R., and Richards, R. Measurements of the thermal transmittance of external walls by a guarded hotplate method, (6) 137*g*.
Dinsdale, A. See Vaughan, F.
Dinsdale, A., and Malkin, P. Measurement of gloss with special reference to ceramic materials, (3) 68*k*.
Dinstone, J. R., and Payne, E. Simple spectrophotometric method for determining magnesium, calcium, strontium, barium, cadmium, and zinc with EDTA, (2) 47*e*.
Dintenfass, L. Microrheology of pigment dispersion by ball milling in nonaqueous media, (9) 215*g*.
Dismant, J. H. Process for beneficiating ores, P (11) 269*h*.
Dixie Chemical Co., Inc. Method of treating sea water, P (8) 193*a*.
Dixon, D. Simple and complex forms of spalling, (11) 259*g*.
Djabaroff, N. See Slatanoff, V.
Dober, G. J. Process for coloring coarse aggregate, P (8) 194*c*.
Dobrowolski, J. A. Mica interference filters with transmission bands of very narrow half-widths, (1) 15*d*.
Dobuzhinskii, V. I., Zalonts, R. M., and Nizhegorodov, N. N. Firing earthenware in shielded tiered cars of tunnel kilns with oil as fuel, (6) 141*e*.
Dodd, A. E. Technical development of the British ceramic industry, (11) 273*f*.
Dodge, N. B. See Hubble, D. H.
Doehlert, D. H. See McKelvey, H. E.
Döll, W. Apparatus for automatically supplying workpieces to glass treating machines for the optical industry, P (8) 188*i*.
Dolgina, G. Z. Technical properties of dolomite ramming mixes, (9) 211*i*.
Dolkart, F. Z. Use of titania-alumina slags for producing refractories, (6) 140*h*.
Dollimore, D., and Gregg, S. J. Observations on the interaction of kaolin and water (II) effect of water adsorption on the strength of kaolinite compacts, (7) 176*e*.
Dominguez Calle, M. Self-absorption of spectral lines and its application to the spectroanalysis of optical glass, (5) 111*a*.
Donaldson, D. J. Chemical process for extracting monohydrate alumina containing materials, P (11) 268*f*.
Donaldson Co., Inc. Dry type air cleaner, P (3) 68*a*.
Donnay, G. See Donnay, J. D. H.
Donnay, J. D. H., and Donnay, G. Sine table for indexing powder patterns, (3) 77*g*.
Donovan, J. J., and Milliken, T. H., Jr. Preparation of active contact masses from kaolin clays, P (3) 71*g*.
Doolittle, F. B. Contamination and moisture resistant [ceramic] insulator, P (11) 262*a*.
Dopera, R. Supporting device for ceramic ware, P (7) 162*b*.
Doran, R. P. Method of making a pressure filled [photoflash] lamp, P (5) 112*b*.
Doremus, R. H., Roberts, B. W., and Turnbull, D. (editors). Growth and Perfection of Crystals, B (1) 23*b*.
Dornberger-Schiff, K., and Höhne, E. Crystal structure of betekhtinite, $Pb_2(Cu,Fe)_{12}S_{13}$, (7) 170*d*.
Dorris, D. K., and Dorris, G. P., Jr. Drive assembly for a trough conveyer, P (7) 165*e*.
Dorris, G. P., Jr. See Dorris, D. K.
Dorsey, B. L. Basic oxygen furnace refractories, (7) 160*d*.
Dotson, C. L. See Robinette, S. L., Jr.
Doubt, C. J. See Altimier, D. F.
Doucette, L. J. See Broderick, E. J.
Douglas, J. See Maxwell, W. A.
Douglas, R. W. Flow of glass, (2) 31*a*. See Adams, R. V.; Bates, T.; Owen, A. E.
Douglass, R. M. Crystal structure of sanbornite, $BaSi_2O_5$, (3) 73*f*.
Dow Chemical Co. Carbon-free shell molds, P (8) 192*b*. Cementing composition and method of use, P (11) 251*e*. Shell mold composition, P (4) 90*a*.
Dow Corning Corp. Concrete of improved strength, P (1) 3*d*. Method of treating glass with epoxy-silanes and their epoxy-ammine adducts, P (11) 256*g*.
Downs, C. D., and Martin, J. Method for producing zinc ferrite pigment, P (2) 45*c*.
Doyle, W. T. Rotary pulverizer mill with flat face stator bars, P (5) 122*h*.
Draper, R. L., and Witzgall, E. J. Magnetic separator, P (11) 266*a*.
Dravo Corp. Apparatus for transferring material [pellets] from a higher to a lower level, P (4) 95*a*. Calcining process, P (6) 133*b*. Vibratory bulk material conveyer mechanism, P (9) 216*e*.
Dreger, L. H. See Wang, K.-C.
Drenning, J. W., Williams, H. T., and Snader, E. S. Electrical precipitator, P (6) 144*a*.
Drescher-Kaden, F. K., and Böttcher, G. Forced ion movements of monovalent metal (ions) in quartz, (9) 219*i*.
Drossler, P. Method and apparatus for salt glazing ceramic ware, P (11) 257*j*. Tunnel kiln, P (11) 267*h*.
Drew, W. H. See Rulon, R. M.
Drickamer, H. G. See Balchan, A. S.
Drope, W. See Schaub, F.
Drowart, J., De Maria, G., and Ingram, M. G. Thermodynamic study of SiC utilizing a mass spectrometer, (9) 221*g*.
Drummond, A. J. See Ångström, A. K.
Drummond, J. E. See Adcock, D. S.
Drummond, W. W. See Slayter, G.
Druzstevni prace Ustredni druzstvo umeleckych remesel, vytvarni oddeleni. Manufacture of decorative glass articles, P (9) 209*a*.
Dubeck, M. Production of high purity titanium boride, P (3) 63*a*. Purification of titanium boride, P (5) 105*f*.
Dubinin, V. T., and Obukhov, V. M. High efficiency of glass tanks, (8) 188*g*.
Dubrov, N. F., and Shvartsman, I. Sh. Use of an insulated magnesite-chromite roof in an open-hearth furnace, (2) 36*g*.
Dubrovo, S. K., and Shmidt, Yu. A. Reaction of vitreous sodium silicates and sodium aluminosilicates with aqueous solutions (I) reaction of vitreous sodium silicates with water and with hydrochloric acid solutions, (7) 178*e*.
Dubrovskaya, T. S. See Dubrovskii, V. A.; Minakov, A. G.
Dubrovskii, V. A., and Dubrovskaya, T. S. Study of the action of accelerators in glass polishing by the use of tagged atoms, (10) 229*d*.
Duckworth, W. H. See King, B. W.; Sheets, H. D.; Smalley, A. K.
Duclos, D. P., Schaffer, A., and Cambel, A. B. Flame-stabilizing effects of inclined air jets, (3) 69*c*.
Ducret, S. What were the costs in a German porcelain factory of the 18th century? (4) 82*b*.
Dümecke, G., Gersöne, H., and Wiegmann, J. Spectrochemical analysis of silicates and related oxidic materials, (11) 272*b*.
Duey, R. Von K. See Old, A. F.
Duffield, R. B. Metathesis of plutonium carrier lanthanum fluoride precipitate with an alkali, P (9) 222*a*.
Du Fresne, R. S. Tile and method of sealing and mounting, P (8) 194*d*.
Dugas, J. J. Method of making expanded cellular cement products, P (10) 226*e*.

Dugdale, R. A. Process for coloring diamonds, P (11) 273*d*.
Dujardin, R. A. Report on British Guiana white sand as a source of glass sand, (5) 121*d*.
Duke, J. B. Improving clay brightness by flotation and fine grinding, P (6) 146*j*.
Dulin, F. H., and Rase, D. E. Phase equilibria in the system ZnO–TiO_2, (4) 101*j*.
Dumesnil, M. E. Vitrifiable inorganic ceramic binder and silver compositions containing it, P (10) 236*i*.
Dumitrescu, A. See Bolgiu, O.
Du Mont, Allen B., Laboratories, Inc. Apparatus for uniformly heating noncircular outlines, P (2) 32*a*. Particle counter, P (11) 267*a*.
Dunay, S., Héjja, A., and Uveges, J. Production of alumina hydrate of high purity in Bayer process plants, (4) 98*j*.
Duncan, J. E. Glass composition, P (2) 33*g*. Ophthalmic glass, P (4) 87*d*. See Middleswarth, E. T.; Seymour, S. L.; Smith, J. J.
Duncan, J. E., and Seymour, S. L. Ivory opalescent glasses, P (2) 33*d*.
Duncan, J. E., and Thomas, G. L. Glass composition, P (10) 230*h*.
Duncanson, A., and Stevenson, R. W. H. Some properties of magnesium fluoride crystallized from the melt, (9) 220*j*.
Dundas, P. H. See Blackman, L. C. F.
Dunipace, D. W. See Fowler, I. G.
Dunlop, A. Ceramic shell molds, (8) 191*b*. Mold structure and its production, P (8) 193*c*.
Dunlop Rubber Co., Ltd. Friction material, P (2) 37*e*.
Dunn, J. M. Simple methods of preparation and control of casting slips, (8) 185*i*.
Dunning, H. N. See Johansen, R. T.
DuPlessis, J. J. See Palmour, H., III.
Duplin, V. J., Jr., and Ebersole, G. B. Fly ash reclamation by pelletizing, P (11) 260*g*.
Du Pont de Nemours, E. I., and Co. Alkali metal modified ferromagnetic chromium oxide, its preparation and use as the magnetic material of recording members, P (6) 143*a*. Antimony-modified chromium oxide ferromagnetic compositions, their preparation and use, P (6) 143*b*. Apparatus for generating visible light by photoelectroluminescence, P (8) 194*j*. Apparatus for making dispersions, P (7) 165*a*. Beneficiated iron oxide pigment and coating compositions containing it, P (5) 121*h*. Ceramic composition and article, P (7) 164*b*. Ferromagnetic material, P (5) 117*i*, P (10) 238*b*. Fibrous alumina monohydrate and its production, P (4) 99*b*. Metal oxide production, P (4) 100*a*. Molding composition, P (11) 261*c*. Nontoxic aluminum enamel frits, P (5) 109*b*. Pigment production, P (1) 18*i*. Potassium silicate solutions, P (8) 199*b*. Radiation temperature measurement, P (4) 97*a*. Reinforced heat resistant refractory-metal alloys, P (11) 261*c*. Rotary kiln, P (7) 166*f*. Safety-glass laminate, P (11) 257*b*. Silica organosols, P (6) 147*b*. Tin-modified ferromagnetic chromium oxide, its preparation and use in recording members, P (6) 143*g*. Vitreous enamel frit, P (8) 187*f*. Vitrifiable inorganic ceramic binder and silver compositions containing it, P (10) 236*i*.
Duran, J. C., and Bakker, M. A. M. Electric discharge tube, P (6) 143*d*.
Duriron Co., Inc. Filter press, P (4) 95*e*.
Dutton, H. W., Jr. Apparatus for making dispersions, P (7) 165*a*.
Dutz, H. See Lehmann, H.
Dwight, K. See Menyuk, N.
D'yachkov, P. N. See Mamykin, P. S.
Dyar, R. L. Grinding disks, P (1) 1*f*.
Dyck, R. See Veleker, T. J.
Dyckerhoff Zementwerke A.-G. and Metallgesellschaft A.-G. Process for manufacturing white cement, P (11) 252*e*.
Dyer, H. B. See Custers, J. F. H.
Dymova, T. N. See Mikheeva, V. I.
Dyson, F. J. Thermodynamic behavior of an ideal ferromagnet, (1) 13*j*.
Dzhamalova, A. S. See Grum-Grzhimailo, S. V.

Eagle-Picher Co. Production of barium hydroxide, P (7) 168*c*.
Eardley, R. P. See Bennett, H.
Earl, J. A. Vitreous enamel, P (6) 134*c*.
Earle, W. R., and Highhouse, F. Method of producing tissue culture flasks, P (11) 256*a*.
Earley, J. W., and Milne, I. H. Manufacture of synthetic sodalite, P (4) 99*h*.
Easterday, F. W. See Tillotson, W. T.
Eastman Kodak Co. Fluoborate glass, P (8) 189*e*. Dust meter, P (1) 14*i*.
Eastus, H. L. Pneumatic take-out apparatus for glassware, P (7) 159*c*.
Eaton, N. F., Glinn, T. J. G., and Higgins, R. Effect of thermal treatment on the properties of silica refractories, (6) 138*f*.
Eaton, N. F., and Higgins, R. Effect of TiO_2 on the properties of silica refractories, (6) 138*g*.
Eaton, R. D. See Ruckelshaus, J. G.
Ebersole, G. B. See Duplin, V. J., Jr.
Eckert, F. German contribution to the development of brick recuperators for glassmelting tank furnaces, (3) 69*g*.
Eckert, O. Ferrite with constricted magnetic hysteresis loop, P (8) 195*b*.
Economos, G. Magnetic ceramics (VI) evaluation of methods of nickel ferrite formation, (1) 12*e*.
Economos, G., and Clevenger, T. R., Jr. Magnetic ceramics (VII) effect of iron oxide particle size on nickel ferrite formation, (2) 39*i*.
Eden, C. Method and apparatus for melting glass, P (7) 159*d*.
Ederer, N. Apparatus for analyzing weight composition of materials, P (11) 265*e*.
Edgecombe, D. A. Displaceable guiding mechanism for extrusion mandrel, P (8) 196*g*.
Edmonds, H. A., Evanson, C. E., and Gilbert, W. S. Conveyer system, P (10) 231*f*.
Edwards, W. H. Beneficiated iron oxide pigment and coating compositions containing it, P (5) 121*h*.
Eells, H. P., Jr., Pearson, E. P., and Lee, H. C. Beneficiation of magnesite ores, P (1) 17*g*.
Eggertsen, F. T. See Nelsen, F. M.
Eguchi, I. See Soda, T.
Egyesult Izzolampa es Villamossagi Reszvenytarsasag. Electroluminescent cell and method of making, P (10) 238*j*.
Ehlmann, A. J., and Sand, L. B. Occurrences of shales partially altered to pyrophyllite, B (9) 223*h*.
Ehrlich, P., and Keil, T. Determination of boric acid in glasses by circulation of methyl alcohol and distillation of methyl borate, (4) 84*i*.
Ehrlich, P., and Kühnl, H. Phase diagram of the system KCl–$TiCl_2$, (1) 20*c*.
Ehrlich, W. See Ullmann, W.
Eichbaum, B. R. Evaluation of new high-speed magnetic ferrite system for use in computer components, (1) 12*i*.
Eichen, E. Emission microscope, (10) 240*a*.
Eigen, H. Thermal efficiency of the wet process rotary cement kiln, (7) 154*j*. Type of fuel and thermal efficiency of the wet process rotary cement kiln, (9) 204*g*.
Eilers, L. H. Cementing composition and method of use, P (11) 251*e*.
Eimco Corp. Method of dewatering foundry sand slimes, P (10) 241*d*.
Eipeltauer, E. Preparation of raw gypsum and its conversion into its various hemihydrate plaster forms (II), (3) 54*c*.
Eipeltauer, E., and Thenner, F. Petrurgic processing of Austrian basalts into high-wear-resistant material, (2) 49*c*.
Eirich, G. See Eirich, W.
Eirich, W., and Eirich, G. Disk mills, P (9) 216*a*.
Eisen, J. B., Nachtman, J. S., Bjorksten, J., and Roe, L. A. Metal coating of glass fibers at high speeds, P (3) 58*i*.
Eisenberg, D. J., and Mauthner, T. Process of making alkali subsilicates, P (10) 242*i*.
Eitaka, T. See Kimbe, C.
Eitel, W. See Shell, H. R.
Eitel-McCullough, Inc. Ceramic type electron tube, P (4) 93*c*. Ceramic vacuum tube, P (2) 40*f*. Electron tube, P (4) 93*a*.
Ekedahl, J. C., and Veale, J. H. Chemically bonded vermiculite insulating blocks and method for manufacturing, P (5) 114*e*.
Ekker, F. Automatic toggle press, (1) 14*c*.
Elbe, G. von. See Karlovitz, B.
Electric & Musical Industries, Ltd. Formation of conducting layers, P (4) 86*j*.
Electro Refractories & Abrasives Corp. Refractory articles, P (10) 235*f*.
Electrofilm, Inc. Solid lubricant films having vitreous enamel binders, P (3) 56*a*.
Elektrokemisk A/S. Arrangement for discharge of material from rotary kilns, P (1) 16*b*. Electrode holder for electric smelting furnace, P (4) 98*a*.
Elektroschmelzwerk Kempten G.m.b.H. Process for manufacturing green silicon carbide, P (5) 105*i*.
Elemelt, Ltd. Method of and furnace for melting and refining glass, P (1) 6*d*.
Eliason, J. R. See Hand, L. M.
Elings, G. A., Koelewijn, A., Verweij, E. J. W., and Klasens, H. A. Glow discharge tube, P (7) 155*f*.
Elkin, H. S. See Benson, S. W.
El'kinson, R. Z. Improving the quality of plaster molds, (8) 194*b*.
El'kinson, R. Z., and Tumanov, S. G. Use of vibration in casting ceramic ware, (2) 41*h*.
Ellenbaum, F. H. Hot top, P (4) 89*j*.
Ellinger, F. C. See Voss, W. G.
Ellington, J. P. Temperatures, thermal stresses, and displacements in solid uranium dioxide rods, (6) 140*e*.
Elliott, A. See Aldred, F. H.; Cowling, K. W.
Elliott Brothers (London), Ltd. Lens, mirror, etc., for high frequency radio aerials, P (2) 40*h*.
Ellis, J. L. See Goetzel, C. G.
Elving, P. J. See Kolthoff, I. M.
Emblem, H. G., and Aston, J. Precision casting, P (8) 193*c*.
Emele, O. Filter press mechanism, P (8) 196*a*.
Emeleus, C. H., and Smith, J. V. Alkali feldspars (VI) sanidine and orthoclase perthites from the Slieve Gullion area, Northern Ireland, (7) 169*a*.
Emerson, D. O. Correlation between X-ray emission and flame photometer determination of the K_2O content of potash feldspars, (6) 147*e*.
Emerson & Cuming, Inc. Method of fabricating Luneberg lenses, P (10) 230*j*.
Emhart Mfg. Co. Apparatus for and method of making glass, P (1) 6*e*.
Emhart Mfg. Co. Technical Staff. Investigation of materials for glass container molds (I) European molds, (9) 207*b*; (II) American molds, (9) 207*c*; (III) cleaning and descaling, (9) 207*d*.
Emmerling, R. W. Ceramic tile, P (3) 52*d*. Saggers, P (7) 161*i*.
Emmett, R. C. See Dahlstrom, D. A.
Emmett, W. D., and Zang, V. E. Zircon ladle linings for cleaner, low cost metal, (5) 113*j*.
Emslie, A. G., and Blau, H. H., Jr. Measurement of the temperatures of unenclosed objects by radiation methods, (10) 240*b*.
Eng, H. See Rollman, H. E.
Engdahl, R. B., and Sullivan, J. D. Municipal incinerator refractories practice, (3) 60*i*.
Engel, W. F., and Krijger, P. Process for decolorizing a hydrocarbon oil using an alumina adsorbent, P (7) 168*b*.
Engelhard Industries, Inc. Calcination of macrosize alumina hydrate, P (4) 99*a*. Composite material, P (11) 255*a*. Temperature measuring device, P (7) 166*c*. Treatment of sand, P (4) 100*f*.
Engelhardt, W. v. Quantitative phase analysis of clays by means of X rays, (10) 245*c*.
Engelhardt, W. v., and Smolinski, A. v. Reaction of polyphosphates with clay minerals, (5) 127*g*.
Englert, R. D. See Senn, O. F.
English Electric Valve Co., Ltd. Methods of manufacturing thin films of refractory dielectric materials, P (8) 195*d*.
Entress, K. Determination of mixing water according to Pfefferkorn and the suitability of the method for process control, (3) 67*e*.
Epel'baum, M. B. See Keshishyan, T. N.
Eppenbach, E. G. Colloidal mills, P (5) 121*h*.
Eppenberger, P. Plansifter compartment, P (2) 42*d*.
Epstein, D. J., and Frackiewicz, B. Temperature-dependent lag in polycrystalline yttrium iron garnet, (1) 13*i*.
Erämetsä, O. Decomposition of potash feldspar, (8) 200*c*.
Erard, T. G. See Santelli, T. R.
Erasmus, H. de W., and Leuenberger, H. Lime-kiln, P (8) 186*b*.
Erdman, A. C., and Radley, S. A. Moisture measuring system, P (5) 119*g*.
Erickson, H. Process for preparing cobalt-molybdenum-alumina catalyst, P (5) 122*h*. See Teter, J. W.
Erie Resistor Corp. Bender type piezoelectric transducer, P (10) 238*b*. Method of making titanium dioxide capacitors, P (1) 13*f*.
Erwin, R. J. Cost advantages in palletized shipments, (6) 133*h*.
Erzberger, P. See Lehmann, H.-A.
Esch, H. G. See Segur, A. B.
Esch-Werke K. G. Gyratory crusher with upper inlet opening, P (8) 198*f*.
Eschelman, H. C., Dean, J. A., Menis, O., and Rains, T. C. Extraction and flame spectrophotometric determination of aluminum, (3) 74*c*.
Esin, O. A. See Nikitin, Yu. P.; Zaimskikh, N. V.
Esin, O. A., and Lepinskikh, B. M. Study of the properties of the components of fused slags by the electromotive force method, (2) 36*b*.
Eskova, E. M. Geochemistry of Nb and Ta in massifs of nepheline syenites of Vishnevy Gory, (3) 70*i*.
Esmay, D. L. Preparation of lithium nitride, P (5) 121*j*.
Espe, W. Materials for High Vacuum Technique: Vol. I, Metals and Metallic Conducting Materials, B (7) 182*i*.
Espenschied, H. Method for making titanium nitride, P (1) 18*e*. See Aagaard, L.
Esquevin, J. See Caillère, S.
Esso Research and Engineering Co. Beryllia-boria composition as a catalyst for cracking higher boiling hydrocarbons, P (4) 99*d*. Cracking process with a zeolite catalyst, P (4) 99*f*. Hydroforming process and catalysts, P (1) 18*i*. Hydroforming process using alumina supported shock-cooled catalyst, P (1) 18*j*. Hydroforming process using improved silica - alumina catalyst base, P (1) 18*a*. Method of making coprecipitated silica-alumina catalyst, P (3) 71*c*. Preparation of attrition resistant alumina for use as a catalyst support in a hydrocarbon conversion process, P (3) 71*j*. Preparation of catalyst particles, P (1) 19*b*. Preparation of eta-alumina by acid hydrolysis, P (3) 71*i*.
Estes, J. F. Pattern of research at Haeger potteries, (8) 185*h*.
Estrada, D. A. See Aleixandre Ferrandis, V.
Esveldt, C. J., and Gorter, E. W. Ferromagnetic cores and method, P (7) 164*d*. Magnet cores having a substantially rectangular hysteresis loop, P (4) 93*h*. Method of manufacturing a magnet core having an approximately rectangular hysteresis loop, P (3) 66*d*.
Etablissements Neyrpic. Process and apparatus for the sorting of solid products, P (11) 269*h*. See Charbonnages de France.
Etablissements Neyrpic and Charbonnages de France. Process [fluid] and apparatus for the separation of solid particulate materials of different densities and/or different particle size, P (11) 269*j*.
Eusner, G. R., and Hubble, D. H. Castable technology, (10) 232*d*. Quality parameters of 35 superduty plastic refractories, (9) 211*i*. Technology of spinel-bonded periclase brick, (7) 161*d*.
Eusner, G. R., and Kappmeyer, K. K. Spalling parameters of silica open-hearth roof brick determined by hot-plate test, (11) 259*h*.
Evans, J. L., and White, J. Further studies of the thermal decomposition (dehydroxylation) of clays, (11) 270*j*.
Evans, P. E. System UO_2–ZrO_2, (10) 245*c*.
Evans, S. O., and Walker, W. R. Method of coating a cylindrical metal element, P (4) 87*f*.
Evanson, C. E. See Edmonds, H. A.

Everest, D. A., and Martin, J. V. Determination of thorium in ores by liquid-liquid extraction, (7) 171*b*.

Everett, D. H., and Stone, F. S. (editors). Structure and Properties of Porous Materials—Proceedings of the Tenth Symposium of the Colston Research Society held at the University of Bristol, 1958, B (6) 152*c*.

Everhart, J. O. Clay or shale makes lightweight aggregate. (11) 257*f*.

Evstrop'ev, K. S. (Jewstropjew), and Toropov, N. A. (Toropow). Introduction to Silicate Chemistry, B (1) 24*j*.

Evsyutin, S. N. Vertical drawing of colored plate glass, (6) 135*f*.

Faatz, A. C., Jr. See Bliss, C.

Fabian, R. J. Impregnants for castings, (4) 83*g*. Permanent magnet materials, (2) 40*f*.

Fabriques de Produits Chimiques de Thann et de Mulhouse. Process for cooling hot gases containing suspended titanium dioxide particles, P (5) 122*b*.

Fadeeva, V. S. Optimum water content for forming building materials from plastic bodies, (3) 67*j*.

Fahn, R. See Hofmann, U.

Fahnoe, F. Method of making a grinding tool, P (1) 1*f*.

Fahnoe, F., and Shyne, J. J. Uranium dioxide impregnated compacts and method for making, P (10) 235*f*.

Fainberg, E. A. See Kitaigorodskiĭ, I. I.

Fairchild, D. H. Ball mill, P (8) 196*d*.

Falke, F. See Costa, H.

Faloon, J. E. Glass-bonded mica, (6) 142*i*.

Famely, M., and Leyonmark, G. F. Reproduction of photographs on ceramics, P (11) 262*b*.

Fang, P. H., Roth, R. S., and Johnson, H. Class of nonlinear dielectric materials, (4) 91*j*.

Fansteel Metallurgical Corp. Method of forming titanium silicide refractory articles, P (6) 140*d*. Refractory metal bodies, P (7) 161*h*.

Farbenfabriken Bayer A.-G. Paper containing an organic fluorescent dye, P (7) 167*f*. Preparation of alkali metal chromate from chrome ores, P (3) 71*h*. Process of preparing silica sols, P (10) 242*a*.

Farbwerke Hoechst A.-G. vorm. Meister Lucius & Bruning. Self-hardening alkali- and acid-proof water glass cements capable of swelling, P (11) 252*e*. Shaped bodies of carbon and process for preparing, P (4) 89*j*.

Faris, B. F. Process for separating plutonium by repeated precipitation with amphoteric hydroxide carriers, P (8) 202*c*.

Farnsworth, M. Draw pieces as aids to correct firing, (5) 105*j*. Types of Greek glaze failure, (5) 106*b*.

Farrington, N. W. See Davenport, S. T. E.

Fasselle, R. J. de. See Mellen, E. J., Jr.

Fastabend, H., and Ruyter, J.-L. Bloating properties of marsh clays, (6) 137*d*.

Fastie, W. G. See Machler, R. C.

Faulkner, T. H. See Arndt, U. W.

Faust, G. T., Hathaway, J. C., and Millot, G. Restudy of stevensite and allied minerals, (3) 77*b*.

Fay, H. Silent electric discharge light source, P (10) 246*c*.

Feagin, R. C., Sosman, R. B., and Horton, R. A. Calcium aluminate binder, P (5) 113*j*.

Feder, H. M., and Chellew, N. R. Method of protecting tantalum crucibles against reaction with molten uranium, P (11) 261*b*.

Federal Chemical Co. Charge preweighing device, P (5) 118*f*.

Fedorova, E. P. See Avgustinik, A. I.

Fehner, R. H. See Lodge, J. R.

Feigin, M. P. New type of drainpipe, (2) 34*i*.

Feild, A. L., Jr. Molding composition and process for producing, P (11) 261*c*.

Felbeck, D. K. See Averbach, B. L.

Feldman, C. Method of forming thin films of barium titanate, P (6) 143*a*.

Fellows, C. G. See Spracklen, S. B.

Fenske, D. H., and Sorensen, R. T. Cyclone separator, P (8) 196*f*.

Fenwal, Inc. Thermocouple harness, P (7) 166*h*.

Feret, L., and Venuat, M. Cement mixing to accelerate set (II) aluminous cement and rapid-hardening cement, (3) 52*j*.

Ferguson, L. R. Swing-jaw crushers, P (1) 19*g*.

Ferguson, W. High pressure gas burners, P (9) 217*e*.

Fernández Cellini, R. See Gascó Sánchez, L.

Fernandez Paris, J. M. See Calleja, J.

Ferrandis, V. A. See Aleixandre Ferrandis, V.

Ferrari, F. Ferric cements with high hydraulic value, (3) 53*f*.

Ferro Corp. Apparatus for regulating the operation of a tunnel kiln, P (6) 145*a*. Furnace, P (7) 166*g*. Porcelain enamels, P (2) 30*h*. Porcelain enamels for light metals, P (7) 156*a*.

Ferro Corp. and Architectural Tiling Co., Inc. Tile setter, P (11) 262*f*.

Fertig, R. B. See Spracklen, S. B.

Fetter, H., and Gómez, V. M. Application of differential thermal analysis in the refractories industry, (2) 35*c*.

Fetterolf, L. D. Pretreatment of ilmenite ore, P (5) 122*c*. Production of finely divided silicon dioxide, P (5) 122*c*.

Feynman, R. P. See Mercereau, J. E.

Fibreboard Paper Products Corp. Method of making calcareous-siliceous insulating material, P (2) 29*d*. Method for preheating cementitious insulating material, P (4) 83*a*.

Fichtner, F. Pre-Meissen red stoneware—Böttger's role in its artistic development, (3) 52*g*.

Field, E. See Brennan, H. M.

Field, H., Jr. See Moore, D. M.

Fields, A. C. Electrostatic precipitators, P (8) 196*h*.

Findlay, J. R., and Gregory, J. N. Simple modification of a standard centrifuge for use up to 500° with temperature measurement during operation, (4) 90*g*.

Fine, M. E., and Chiou, C. Acoustic relaxation effect in Mn_3O_4, (10) 243*c*.

Fine, M. M. See Hahn, A. D.

Fine, S. See Hendee, C. F.

Fink, J. E. Screening device, P (4) 96*d*.

Finneran, L. A. See Treptow, A. W.

Finniston, H. M., and Howe, J. P. (editors). Metallurgy and Fuels—Progress in Nuclear Energy: Series V, Vol. 2, B (5) 130*j*.

Firestone, R. F. See Atlas, L. M.

Firma Beka Lufttechnik G.m.b.H. Method and apparatus for removing liquids from glass plates, P (11) 256*i*.

Firma Ciments d'Obourg, S.A. Process and apparatus for separating solid particles from highly viscous fluids, P (5) 122*e*.

Firma Fr. Hesser Maschinenfabrik A.-G. Method and apparatus [hopper] for conveying bulk materials, P (7) 165*b*.

Firma Indugas. Apparatus for measuring the carbon level of furnace gases, P (9) 217*d*.

Firth, B. G. Cold cathode for electron discharge devices, P (11) 263*f*.

Firth Sterling, Inc. Carbide metal, P (10) 234*b*. Process of making cemented carbide products, P (10) 235*b*.

Fischer, J. J. Blending and heat exchange mill, P (5) 118*e*. Blending mill agitator and additive feed, P (3) 67*i*. Blending mill liquid feed, P (4) 95*b*.

Fischer, K., Sydow, H., and Streckebach, E. Method for producing catalysts, P (2) 45*b*.

Fischer, R. See Trebge, E.

Fischer, T. See Pfund, E. T., Jr.

Fischer, W., Braune, G., Dietz, W., Jübermann, O., Krause, G., and Niemann, K. D. Separation of inorganic mixtures by partition (XI) separation of rare earths by distribution in two solvents, (9) 220*h*.

Fischer, W. A., and Hoffmann, A. Volume changes in the diffusion zone of oxide systems, (9) 222*a*.

Fischer, W. A., and Lorenz, G. Thermocouples, P (4) 97*c*.

Fisher, A. J. See Croft, G. M.

Fisher, D. J. Pegmatite phosphates and their problems, (3) 76*j*.

Fisher, J. C. See Bean, C. P.

Fisher, J. C., Jr. Oxidation resistant graphite and method for making, P (4) 89*g*.

Fisher, J. R. See Sauer, H. A.

Fisher, M. A. See Appel, A. V.

Fisher & Ludlow, Ltd. Conveyer rollers [for a troughed belt], P (10) 239*j*.

Fitch, F. J. Macropoint counting, (6) 148*h*.

Fitch, P. T., and Armstrong, J. E. Artificial cryolite process, P (4) 99*b*.

Fitzer, E., and Rubisch, O. Molybdenum disilicide heating element for temperatures up to 1700°C., (8) 197*i*.

Fitzgerald, D. B. Apparatus for laminating, P (10) 230*a*.

Fitzgerald, J. V. Apparatus for making tile panels, P (5) 115*f*.

Flack, H. L. See Mielenz, R. C.

Flaschen, S. S. See Brady, G. W.; Sauer, H. A.; Sinclair, W. R.

Flaschen, S. S., and Garn, P. D. Inorganic electrical insulating coatings on aluminum and copper, (1) 3*g*.

Flaschen, S. S., Pearson, A. D., and Kalnins, I. L. Improvement of semiconductor surfaces by low melting glasses, possibly functioning as ion getters, (7) 163*c*.

Flaschen, S. S., Pearson, A. D., and Northover, W. R. Formation and properties of low-melting glasses in the ternary systems As–Tl–S, As–Tl–Se, and As–Se–S, (6) 134*j*.

Flatt, R. Chromium content of cements, (5) 106*i*.

Fletcher, W. D. See Shyne, J. J.

Fletcher, W. W. Determination of the sodium, potassium, and lithium oxide contents of soda-lime-magnesia-silica, soda-boric oxide-silica, and potassium oxide-lead oxide-silica glasses using an EEL filter flame photometer, (2) 31*a*.

Flint, O. Experiments on enameling aluminum, (5) 108*e*.

Flodin, C. R. See O'Mara, R. F.

Flook, W. M., Jr., and Friel, D. D. Radiation temperature measurement, P (4) 97*a*.

Florio, J. V. Dielectric properties of alumina at high temperatures, (6) 142*b*.

Flotepak Corp. Container for a plurality of sheets of glass, etc., P (5) 111*h*.

Floyd, V. S. Apparatus for glass chip removal, P (4) 85*j*.

Flügge, S. (editor). Encyclopedia of Physics: Vol. VII, Part II, Crystal Physics II, B (8) 202*d*.

Fluskey, E. E., and Brueckner, H. U. Method and apparatus for manufacturing precision lenses, P (8) 189*i*.

Fochtman, E. G. See Appel, A. V.

Förster, F. M. O. Method and apparatus for nondestructive testing, P (1) 15*g*.

Foëx, M. See Trombe, F.

Folberth, O. See Welker, H.

Foley, J. M. See Kennedy, D. O.; Otis, L. M.; Schreck, A. E.

Foley, M. P. Apparatus for controlling electrical precipitators, P (9) 216*b*. Apparatus for controlling the operation of electrical precipitators, P (3) 67*i*.

Folkins, H. O., and Geerts, M. J. Isomerization catalysts and process, P (7) 167*i*.

Folman, M. See Garbatski, U.

Foner, S. See Carr, P. H.

Fontein, F. J. Apparatus for wet screening [with a curved deck], P (10) 241*f*. Method for separating fine material, P (5) 121*b*. Process and apparatus for separating particles according to size, P (5) 122*e*. Screening apparatus, P (5) 118*j*.

Food Machinery and Chemical Corp. Magnesium oxychloride cements, P (10) 226*d*.

Foot, D. G. "Bubble" wheels for soft nonmetallics, (3) 51*f*.

Foote Mineral Co. Glass colorant composition, P (6) 134*a*. Process for recovery of lithium hydroxide from lithium phosphates, P (8) 199*c*.

Foraker, R. W. Ceramic glaze, P (8) 194*d*.

Forbes, D. W. A. Interpretation of thermal expansion data in research and control practices, (7) 165*i*.

Ford, R. W., and Noble, W. Development of drying strains in wire-cut brick, (7) 159*g*. Moisture redistribution in plastic clay during storage, (7) 175*j*.

Ford, W. F., and Rees, W. J. CaO–MgO–SiO_2–Al_2O_3–Cr_2O_3–Fe_2O_3 system, (9) 219*c*.

Ford Motor Co. Shell molding material and process, P (11) 261*d*. Transparent coating, P (2) 34*g*.

Forkner, H. R., and Whittemore, J. W. Properties and uses of Virginia kyanite, (8) 198*i*.

Førland, T. Relations between the structure of glass and some of its properties, (10) 229*e*.

Førland, T., and Tashiro, M. Acid-base relationship in glass systems (III) development of an oxygen electrode for measurements of acid-base properties of glasses, (11) 253*f*.

Forman, H. B. Process for the chlorination of zirconium-bearing materials, P (5) 122*f*.

Forry, K. E. See Barber, S. W.

Forssen, Z. E. See Rosenqvist, P. O.

Foster, D. See Buttet worth, B.

Foster, H. B. Method of changing or altering the color of building brick, tile, or other ceramic units, P (3) 60*b*.

Foster, J. L. See Ilenda, F. P.

Foster, L. M., Long, G., and Stumpf, H. C. Production of graphite single crystals by the thermal decomposition of aluminum carbide, (3) 77*d*.

Foster, P. A., Jr. Determination of the cryolite–alumina phase diagram by quenching methods, (3) 73*j*. Liquidus curves in the quaternary system NaF–AlF_3–CaF_2–Al_2O_3, (9) 220*g*.

Foster Wheeler Corp. Composite firebrick, P (3) 62*g*. Pulverized fuel burner, P (4) 98*a*.

Fourmanoit, R. Machine for the continuous manufacture of asbestos-cement pipes, P (8) 186*d*.

Fouse, F. Z. Article spacing mechanism, P (10) 230*b*. Container handling mechanism, P (7) 158*e*. Mold grab, P (3) 59*e*.

Foust, A. S., Wenzel, L. A., Crump, C. W., Mans, L., and Anderson, L. B. Principles of Unit Operations, B (11) 274*d*.

Fowler, I. G., and Dunipace, D. W. Method of producing pattern-cut bent glass sheets, P (1) 6*g*.

Fowler, R. M. See Wright, S. G.

Fox, M. D., and Weinberg, F. J. Optical methods for the study of flames in turbulent premixed gas streams, (10) 240*e*.

Foyn, K., and Tommelstad, E. Electrode holder for electric smelting furnace, P (4) 98*a*.

Frackiewicz, B. See Epstein, D. J.

Fraher, J. T. Vitreous enamel, P (4) 84*b*.

Francis, C. B. Production of new sulfuric acid from waste pickle liquor, P (11) 252*i*.

Francl, J., and Logiudice, J. S. Sealing glass parts, P (5) 112*g*.

Frank, H., and Wilkendorf, E. Process for the production of silicon carbide, P (3) 62*j*.

Frank, K. J. Methods of manufacturing thin films of refractory dielectric materials, P (8) 195*d*.

Franke, E. A. Determination of the thermal shock resistance of glass, (7) 156*e*. Measurement of the adherence of a glaze to a ceramic body, (4) 91*f*.

Franke, I. Production of large artificial quartz crystals, (7) 177*e*.

Franke, L. MgO production from kieserite roasting residues, (6) 146*a*.

Frankenhoff, C. A. Recovery of diatomaceous earth, P (11) 261*b*.

Franklin, C. E. L., and Tindall, J. A. Attack of on-glaze colors by acid, alkali, and washing agent, (6) 140*j*.

Franx, C. Piezoelectric quartz crystal of elongated shape, P (7) 164*b*.

Fraser, R. P. Fuel [liquid] combustion apparatus and the production of controlled gaseous effluents therefrom, P (7) 166*f*.

Freeberg, B. F. Variable resistance device, P (3) 67*b*.

Freedman, N. S. Method of making stem assembly for ultrahigh frequency electron tubes, P (10) 238*f*.

Freeman, I. L. Firing-shrinkage characteristics of some brick clays, (9) 210*e*.

Freiberg, J. M. Apparatus for supporting a glass sheet, P (6) 136*a*.

Frenchtown Porcelain Co. Resistor and method of preparing, P (10) 238*i*.

Fridrich, E. G. Manufacture of conductive glass paper, P (3) 66*e*.

Friedberg, A. L. See Shannon, R. D.; Spriggs, R. M.

Friedman, G. M. Identification of carbonate minerals by staining methods, (7) 173*e*.

Friedman, H. Method [X-ray] of measuring the thickness of thin coatings, P (7) 166*c*.
Friedman, H. A. See Weaver, C. F.
Friedrich & Dimmock, Inc. Apparatus for forming glass fiber mats, P (7) 157*j*.
Friel, D. D. See Flook, W. M., Jr.
Friel, E. New pigment and mixture data, (11) 268*f*. New pigment-mixture diagram and color system, (4) 83*h*.
Frikell, G. Quartz glass and quartz ware—silica glass and silica ware, (9) 218*b*.
Fritz, G., and Berkenhoff, H. O. Silicon phosphide, Si_2P, (5) 127*c*.
Frost, J. A. Fused silica and fused quartz (II), (9) 220*c*; (III), (3) 70*h*.
Fruchter, S. See Bolgiu, O.
Frykland, R. A. Sonic apparatus for measuring the level of stored materials, P (10) 242*i*.
Frykman, R. W. Absorption spectrometry apparatus, P (10) 246*a*.
Fuchs, E. Grinding wheel, P (4) 81*h*.
Fuchs, L. H. Formation and properties of synthetic thorite crystals, (3) 74*g*. See Primak, W.
Fuchs, L. H., and Gebert, E. X-ray studies of synthetic coffinite, thorite, and uranothorites, (3) 79*c*.
Fujii, J. Effect of moisture content on the properties of asbestos-cement sheets, (2) 28*f*.
Fujii, K., and Ishido, Y. Method for making insulating refractories, P (6) 140*f*.
Fujimura, R. See Atou, Y.
Fujimura, R., and Atou, Y. Radioactive self-luminous compounds (I) preparation, (3) 65*a*.
Fujimura, T., and Torizuka, Y. Ferromagnetic resonance absorption in a pyrrhotite single crystal, (7) 163*c*.
Fujino, S. See Nakamura, M.
Fujishiro, I. See Fukuo, N.
Fukuo, N., Kozuka, T., Fujishiro, I., and Yoshida, M. Automatic sun-tracking system of a heliostat-type solar furnace, (1) 15*h*. Heliostat-type solar furnace (II) heliostat, (1) 15*j*; (III) parabolic mirror, (1) 16*a*.
Fukuoka, N. See Uchida, E.
Fuller Co. Conveying apparatus, P (4) 99*i*. Feeding devices for finely divided materials, P (5) 118*g*. Material level indicating apparatus, P (11) 266*b*.
Funabashi, W. Study on abrasives (IX) buffing compounds for nickel- and copper-plated metals, (3) 51*h*; (X) shapes of magnesium oxide, (4) 81*g*; (XI) finishing abrasives for synthetic resins and Celluloid, (4) 81*i*.
Funatogawa, Z., Miyata, N., and Usami, S. Electric resistance and cation distribution of Fe–Mn ferrite system, (2) 39*i*. Ferromagnetic crystalline anisotropy of Fe–Mn ferrite system, (11) 262*j*.
Furth, J. V. See Long, J. V.
Fusarini, E. Recent theory of ion exchange and the development of an electrical charge on particles in the system kaolinite–water, (11) 271*g*.
Futty, R. C. Feed apparatus for granular material, P (5) 118*g*.
Fye, R. L. Triple roll crusher, P (3) 72*f*.
Fyfe, W. S. See Carr, R. M.

Gabis, V. Oligocene clays of Le Puy-en-Velay basin (Haute-Loire), (4) 98*i*.
Gärtner, K., and Griessbach, R. Selective adsorption of vapors on silica gels of different pore structure, (5) 127*a*. Surface activity of thermally aged silica gel, (5) 128*i*. Surface area and pore structure of silica gels in relation to their pretreatment, (5) 128*j*.
Gaines, G. L., Jr. Method of rendering mica paper moisture resistant and article produced, P (5) 118*a*. Mica paper and method of preparing, P (4) 94*i*.
Gaines, G. L., Jr., and Bueche, A. M. Mica paper, P (11) 264*d*.
Gaiser, R. A. Electrically conducting glass and method for producing, P (5) 111*k*. Electrically conductive windshield, P (11) 255*c*. Transparent resistance heated panel and method of producing, P (1) 6*j*.
Gak, B. N. Improving the performance of conveyer type driers for wall tile, (2) 43*f*.
Galakhov, F. Ya. Research on the crystallization of mullite in ternary alumina–silica systems, (5) 127*j*.
Galdina, N. M. See Solomin, N. V.
Gallavan, R. C. Bulb breaking correction for heat of wetting determinations, (9) 219*b*.
Gallup, J. L. Crushing resistance of glass receiving-tube envelopes in a gas pressure chamber, (4) 84*h*. Tipoff apparatus for electron tubes, P (9) 210*a*.
Gallup, W. A. See Mills, I. W.
Gama, A. R., and Markham, W. G. Cement composition, P (11) 251*d*.
Gambill, W. R. How to estimate mixture viscosities, (7) 173*d*.
Ganz, R. V. Method of making casting molds for ceramic forms, P (10) 236*f*.
Garbatski, U., and Folman, M. Multilayer adsorption of water near saturation pressure on plane glass surfaces, (1) 5*e*.
Gard, J. A., and Taylor, H. F. W. Crystal structure of foshagite [$Ca_4Si_3O_9(OH)_2$], (8) 200*b*. Foshagite—composition, unit cell, and dehydration, (3) 74*h*.
Gardner Machine Co. Abrasive disk and method of making, P (7) 153*h*.
Garg, S. P. See Ramachandran, V. S.
Garino-Canina, V., and Cohen, S. Thermoluminescence of vitreous germanium oxide containing the impurity aluminum, (9) 208*c*.
Garn, P. D. See Flaschen, S. S.
Garrels, R. M., and Howard, P. Reactions of feldspar and mica with water at low temperature and pressure, B (9) 223*c*.
Garrett, W. G., and Williams, L. S. Progress in aqueous slip casting of magnesia, (3) 61*j*.
Garton, W. R. S., and Codling, K. Ultraviolet extensions of the arc spectra of the alkaline earths—the absorption spectrum of barium vapor, (7) 181*h*.
Garvo, T. W. Humidity drier for pipe and tile, (2) 41*e*.
Gary, W. W. Activation of clay [for catalysts] by acid treatment, aging in inhibited oil, and calcination, P (7) 167*d*.
Gascó Sánchez, L., and Fernández Cellini, R. Thermogravimetric control of uranium compounds, (7) 181*e*.
Gasiorowski, K. Petroleum fuel oil, its specification data, and its practical importance, (9) 217*g*.
Gates, G. L. See Aune, Q. A.
Gatineau, L., and Méring, J. Structure of muscovite, (7) 179*d*.
Gauld, B. B. See Daniel, W. A.
Gauthier, W. D. Apparatus and methods for electrostatic coating utilizing an inner electrode to substantially reduce the central void of the annular spray pattern, P (7) 165*c*.
Gay, P. See Bown, M. G.
Gay, R. Course in Crystallography Book I: Geometric Crystallography; Book II: Physicochemical Crystallography, B (4) 103*j*.
Gaydon, A. G. See Pesic, D.
Gaylard, J. Sandblasting for domestic glass, (4) 82*a*.
Gebert, E. See Fuchs, L. H.
Gebrüder Bühler. Plansifter compartment, P (2) 42*d*.
Gee, R. E., and Gibbs, J. W. Method of silvering mirrors, P (2) 34*c*.
Geerts, M. J. See Folkins, H. O.
Gell, P. A. M. Method of and furnace for melting and refining glass, P (1) 6*d*.
Geller, S. Magnetic interactions and distribution of ions in the garnets, (10) 237*b*.
Geller, S., and Miller, C. E. Silicate garnet–yttrium-iron garnet solid solutions, (7) 178*i*. Substitution of Fe^{3+} for Al^{3+} in synthetic spessartite, (6) 148*j*.
Gel'tman, A. Z., and Golubov, L. F. Mechanization of the assembly and fixing of mosaic tile, (5) 115*h*.
General Aniline & Film Corp. Production of magnetic iron particles, P (10) 242*c*.
General Dynamics Corp. Temperature indicator, P (8) 197*d*. Thermocouple element, P (4) 97*b*.
General Electric Co. Abrasive material and preparation thereof, P (11) 249*i*. Burn-resistant phosphors and method of preparation thereof, P (9) 209*a*. Cathode ray tube envelope, P (3) 58*b*. Coated electric lamp, P (11) 255*j*. Coating composition for electric lamps, P (5) 111*f*. Composite mica paper, mica flake electrical insulating material, P (5) 117*e*. Concave grating spectrographic instrument, P (11) 273*c*. Device for direct measurement of relative humidity, P (4) 97*a*. Diamond synthesis, P (11) 249*g*, P (11) 249*h*, P (11) 249*i*. Die, P (11) 265*j*. Electric lamp gas filling and sealing method and apparatus, P (2) 33*b*. Electric lamp making apparatus, P (5) 111*i*. Electric lamp and method of manufacture, P (7) 158*a*. Electrode assemblies and methods of making, P (8) 192*d*. Electroluminescent cell and method of making, P (10) 238*a*. Forming patterned phosphor screens in post acceleration cathode ray tubes, P (11) 255*e*. Forsterite ceramic bodies, P (5) 117*j*. Glass component for electrical apparatus, P (7) 158*c*. Heat resistant composition, P (9) 212*a*. High pressure high temperature apparatus, P (11) 265*b*. High-temperature high pressure apparatus, P (11) 265*c*, P (11) 265*d*. Lamp transfer apparatus, P (2) 33*e*. Manufacture of conductive glass paper, P (3) 66*e*. Metalizing ceramics, P (3) 66*g*. Method of activating thermionic emitter, P (4) 93*i*. Method and apparatus for manufacturing ceramic insulator shapes, P (4) 91*d*. Method of bonding metal borides to graphite, P (2) 40*j*. Method of depositing a silver film, P (7) 164*a*. Method of forming an adherent film of magnesium oxide, P (10) 227*a*. Method of impregnating mica paper with an alkyl orthotitanate and product produced thereby, P (11) 264*a*. Method for increasing dry adhesion of luminescent screens, P (4) 87*i*. Method of making diamonds, P (11) 250*a*. Method of making garnet, P (10) 241*e*. Method of manufacturing electric lamps, etc., P (11) 256*c*. Method of rendering mica paper moisture resistant and article produced, P (5) 118*a*. Methods of manufacturing evacuated and gas-filled devices, P (8) 190*c*. Mica paper, P (11) 264*d*. Mica paper and method of preparing, P (4) 94*i*. Mold apparatus for casting glass, P (6) 137*b*. Optical pyrometer apparatus, P (7) 166*d*. Phosphor coating of improved adherence and preparation thereof, P (3) 59*g*. Pinch seal apparatus, P (5) 112*d*. Printed circuit sandwiched in glass, P (9) 215*c*. Purification of tungsten carbide, P (5) 105*g*. Quartz working, P (7) 168*e*. Reaction vessel, P (11) 266*e*, P (11) 266*d*. Semiconductor, P (9) 215*d*. Silica-silicone aerogels and their preparation, P (11) 269*j*. Silicon carbide semiconductor devices and method of preparation, P (5) 118*b*. Single crystal electroluminescence, P (5) 195*g*. Supporting means for furnace charges, P (10) 240*j*. Thermionic cathodes and methods of making, P (11) 264*e*. Thermocouple temperature monitor, P (9) 216*j*. Tubular lamp envelopes, P (4) 87*j*. Tungsten carbide purification, P (5) 105*h*. Two-stage high pressure high temperature apparatus, P (11) 266*d*. Vaporization coating process and alloy therefor, P (3) 59*h*.
General Electric Co., Ltd. Glass compositions and glass-to-metal seals, P (8) 189*j*, P (9) 209*f*, P (11) 255*f*. Manufacture of electric incandescent lamps, etc., P (9) 209*c*. Methods of sealing a tubular glass neck portion to a glass wall, P (6) 136*j*. Vibratory conveyer apparatus, P (10) 239*j*.
General Grinding Wheel Corp. Method of making abrasive articles, P (10) 225*g*.
General Laboratory Associates, Inc. Process of making a ceramic element usable in surface-gap igniters, P (4) 94*b*.
General Mills, Inc. Absorption spectrometry apparatus, P (10) 246*a*.
General Motors Corp. Cement for spark plugs, etc., P (4) 91*a*. Coating thickness gauge, P (5) 119*e*. Composition for glass-to-metal seal, P (11) 255*b*. Method for measuring the strength of sintered ferrous articles, P (11) 260*b*. Process and apparatus for dielectric heating, P (6) 143*c*. Process and apparatus for forming reinforced thin-walled shell molds, P (11) 261*e*. Self-lubricating shell molds, P (7) 161*j*. Spectrometer specimen holder, P (10) 246*d*.
General Refractories Co. Basic arch for reverberatory furnace, P (8) 192*j*. [Basic] open-hearth furnace construction, P (8) 192*a*. Basic roof for reverberatory furnaces, P (2) 37*c*. Process of molding refractory brick, P (2) 37*i*. Refractory brick, P (8) 193*c*. Refractory lining for rotary kilns, P (2) 37*b*.
Gennari, G. Eighteenth-century majolicas of Pesaro of the Casali-Callegari works, (5) 105*j*.
Genova, J. See Souza Santos, P. de.
Gent, A. N. Theory of the parallel plate viscometer, (6) 144*j*.
Gentex Corp. Method for spinning glass fibers, P (8) 190*d*.
George, D. See Murray, P.
George, H. J. C. Method of incorporating titanium into selectively transparent silica glass, P (1) 6*f*. Process and apparatus for accelerating crystal growth, P (8) 202*b*.
Georgescu, N. See Manolescu, O.
Georgia Kaolin Co. Ceramic substance and method of making, P (7) 167*b*. Method of blunging clay, P (4) 100*d*. Method of coating a spray wheel, P (10) 241*c*. Method of handling and conditioning papermaking clay for use, P (6) 146*d*. Method of treating kaolinitic clay, P (2) 45*d*.
Gerber, E. A. See Stanley, J. M.
Gerber, W. J. See Curran, D. R.
Gerhardt, G. E. Apparatus for extracting particle size data, P (9) 216*i*.
Gerhart, H. L. Catalyst compositions, P (1) 17*i*.
German, W. L. Some applications of organic compounds in the ceramic industries, (3) 71*a*. See Gilbert, W.
German, W. L., and Ratcliffe, S. W. Relative translucencies of the system bone–china clay–stone, (1) 11*f*.
Gerring, M. See White, L. A.
Gerssöne, H. See Dümecke, G.
Gerson, R., and Marshall, T. C. Dielectric breakdown of porous ceramics, (4) 92*b*.
Gerstner, D. M. See Cox, J. E.
Gerth, A. E. Mounting for electrodes in glass vessels, P (6) 143*b*.
Gerth, K. See Vogel, W.
Getman, I. A. See Zhikharevich, S. A.
Geusic, J. E. Paramagnetic fine structure spectrum of Cr^{3+} in a single ruby crystal, (2) 47*e*.
Geyling, F. T. High pressure [vitreous] insulating seal for [coaxial] electrical cable system, P (11) 264*a*.
Ghosal, B. Refractories at Durgapur, (5) 113*j*.
Ghosh, S. See Yadava, K. L.
Gianetto, S. Chrome-plating of drawing dies, (4) 95*b*.
Gibbs, J. W. See Gee, R. E.
Gibbs, M. B. Special sheets for one-coat enameling, (7) 155*i*.
Gibbs, P. See Scheuplein, R.
Gibson, R. F. See Old, A. F.
Gibson, R. F., and Old, A. F. Lightweight aggregate furnace patch lining and process of applying, P (1) 16*e*.
Gibson, W. E. See Lerch, W.; Tremper, B.
Giemza, C. H. See Wallis, L.
Gieren, W. See Juza, R.
Giesen, K. See Hegemann, F.
Gieskieng, D. H. Radioactive rays control clinker depth, (7) 154*h*.
Giess, E. A. See Beals, M. D.
Gijn, B. van. Performance of continental ladle and runner brick, (1) 8*g*.
Gilbert, A. J., Jr. See Keen, H. J.
Gilbert, G. R. Cracking process with a zeolite catalyst, P (4) 99*j*.
Gilbert, G. R., and Kirshenbaum, I. Hydroforming process and catalysts, P (1) 18*i*.
Gilbert, W. Some problems of manufacture by the wire-cut process, (9) 215*j*.
Gilbert, W., and German, W. L. Effect of chemical treatment on the properties of certain British clays, (3) 70*d*.

Gilbert, W., Marriott, E., and German, W. L. Use of coal washery tailings and other waste products in the manufacture of brick, (9) 210*e*.
Gilbert, W. E. Vibratory feeder, P (5) 119*a*.
Gilbert, W. S. See Edmonds, H. A.
Gill, R. M. See Carruthers, T. G.
Gill, R. M., and Spence, G. Ceramics for machine tools (I, II), (1) 1*e*.
Gilleo, M. A., and Mitchell, D. W. Magnetic properties of substituted manganese-tin spinels, (1) 12*g*.
Gillery, F. H. X-ray study of synthetic Mg-Al serpentines and chlorites, (3) 79*d*.
Gillson, J. L. (editor-in-chief). Industrial Minerals and Rocks, B (6) 150*e*.
Gillson, J. L., Jr. Apparatus for generating visible light by photoelectroluminescence, P (8) 194*j*.
Gilman, J. J. Fracture in solids, (9) 220*b*.
Gilmour, A. E. Suspended plummet method for density measurements [of liquids], (7) 180*b*.
Gilmour, J. McM. See McWilliam, J. M.
Gindoff, S. See McCollum, L. S.
Ginsberg, H. See Schoenfelder, H.
Ginsberg, H., Hüttig, W., and Strunk-Lichtenberg, G. Influence of the starting materials on the crystalline forms of thermally decomposed aluminum hydroxides (I) crystalline products formed on the thermal decomposition of γ-aluminum hydroxide, (7) 173*f*; (II) influence of the starting material on dehydration of γ-hydroxide, (7) 173*h*.
Ginther, R. J. See Claffy, E. W.
Gin'yar, E. A., Kaminskii, V. K., and Kolsman, I. E. Production of high-grog burner parts for coke ovens, (3) 61*d*.
Ginzburg, D. B., Matveev, M. A., and Zherebin, S. I. Increasing the efficiency of glass tanks by sealing the regenerator and recuperative system, (10) 228*g*.
Gioele, J. L. See Bingham, R. S., Jr.
Giordano, A. Process for producing potassium meta-antimonate, P (7) 168*h*.
Giovannini, F. Drier for heavy ceramic products utilizing a rotary air mixer, (5) 120*d*.
Girardot, P. R. Process for preparing zirconium chlorides, P (8) 199*a*.
Gisner, B., and Ohlsson, F. J. O. W. Sintered hard metal alloy, P (7) 162*a*.
Givulescu, I. See Manolescu, O.
Glaceries de la Sambre, Soc. Anon. Apparatus for vertically actuating the tools of machines for grinding and/or polishing glass, P (3) 58*a*.
Gladding, McBean & Co. Tile and method of sealing and mounting, P (8) 194*d*. Tile setter loading apparatus, P (9) 213*f*.
Gladrow, E. M., and Kimberlin, C. N., Jr. Preparation of attrition resistant alumina for use as a catalyst support in a hydrocarbon conversion process, P (3) 71*j*.
Glaister, R. M. Solid solution dielectrics based on sodium niobate, (8) 194*h*.
Glaser, C. H. Bulk material unloader [for box-cars], P (10) 241*g*.
Glaser, F. W. Cemented zirconium boride material having a protective chromium containing coating, P (9) 212*e*.
Glass, J. J., Vlisidis, A. C., and Pearre, N. C. Chromian antigorite from the Wood's Mine, Lancaster County, Pennsylvania, (6) 147*h*.
Glass Containers (Medical), Ltd. Tubular glass containers such as ampoules, phials, etc., P (3) 59*g*.
Glasser, F. P. Stability and synthesis of uvarovite, $Ca_3Cr_2Si_3O_{12}$, (7) 179*j*.
Glasser, F. P., and Osborn, E. F. Ternary system MgO–MnO–SiO_2, (4) 102*c*.
Glasson, D. R. Reactivity of lime and related oxides (I) production of calcium oxide, (8) 201*b*; (II) sorption of water vapor on calcium oxide, (8) 201*c*.
Gleason, W. A. Five ways to seal glass to metal, (10) 227*j*.
Glebov, S. V. See Rubin, G. K.; Tikhonova, L. A.
Glemser, O., Beltz, K., and Naumann, P. System silicon–nitrogen (properties of silicon nitride), (5) 128*f*.
Glenny, E., and Royston, M. G. Transient thermal stresses promoted by the rapid heating and cooling of brittle circular cylinders, (11) 272*i*.
Glinn, T. J. G. See Eaton, N. F.
Gloag, H. L. See Keyte, M. J.
Globe-Union, Inc. Nonreactive refractory, P (3) 62*d*.
Gloss, G. H. See McGinnis, W. J.
Gloss, G. H., and McGinnis, W. J. Production of potassium carbonate, P (2) 46*a*.
Glover, W. S., and West, J. F. Reinforced glass aerosol containers and method of making, P (11) 257*b*.
Glover, W. S., West, J. F., Roush, P. A., and Budzilek, A. E. Reinforced glass aerosol containers, P (5) 112*e*.
Glowacki, G. V. Ceramic compositions, P (11) 263*e*.
Glynn, T. W. Method and apparatus for drilling large holes through glass sheets, P (3) 58*j*.
Gmeiner, A. Organic binders increase strength of clay bodies, (11) 257*g*.
Gobat, A. R. Method of cutting semiconductive material, P (4) 94*c*.
Godridge, A. M. See Bond, R. L.
Godridge, A. M., and Thurlow, G. G. Direct measurement of the total heat in open-hearth furnaces, (2) 42*i*.
Godron, Y. Glass and method of making, P (6) 136*c*. Porous refractory material and method for manufacturing, P (6) 140*g*.
Goepfert, G. J. Abrasive wheel composition, P (10) 225*f*.
Goetzel, C. G. See Tarkan, S. E.
Goetzel, C. G., and Ellis, J. L. Production of hollow thermal elements, P (10) 235*c*.
Goetzel, C. G., Grant, N. J., Skolnick, L. P., and Yoblin, J. A. Thermal element, P (2) 37*g*.
Goldblum, K. B. Silica-silicone aerogels and their preparation, P (11) 269*j*.
Golding, K. E., and Meyer, W. M. Method of and apparatus for measuring the thickness of sheet materials, P (2) 33*i*.
Golding, W. F. Power press, P (10) 239*i*.
Goldman, J. E. See Urquhart, H. M. A.
Goldsmith, J. R., and Graf, D. L. Relation between lattice constants and composition of the Ca-Mg carbonates, (3) 77*h*.
Goldsmith, W. M. Power of positive progress—six rules for creative use of research and design, (7) 154*b*.
Goldstein, H. W. See Walsh, P. N.
Goldstein, M. Depolarized components of light scattered by glasses (I) measurements on twelve optical glasses, (3) 56*f*; (II) influence of nonannealable strains on the scattering, (3) 56*g*.
Golightly, J. S. Apparatus for bending glass, P (5) 111*c*.
Golson, C. E. Modern classification methods applied to fine aggregates (I), (3) 70*d*; (II), (5) 121*a*.
Goltz, L. See Krug, J.
Golubov, L. F. See Gel'tman, A. Z.
Gómez, V. M. See Fetter, H.
Gompertz, G. St. G. M. Chinese Celadon Wares, B (1) 22*i*. Koryo pottery, (2) 28*c*.
Goncharov, V. V. See Riskin, V. Ya.
González, J. de D. L. See López González, J. de D.
González Carreró, J. Differentiation and quantitative determination of fractions of soluble silica, (7) 172*f*.
González Carreró, J., and Carballido Ramallo, O. Microanalytical methods (colorimetric, gravimetric, and volumetric) for the determination of silica, (7) 175*a*.
Goodenough, J. B. Theory of the role of covalence in the perovskite type manganites [La,M(II)]-MnO_3, (3) 78*d*.
Goodenough, J. B., and Loeb, A. L. Theory of ionic ordering, crystal distortion, and magnetic exchange due to covalent forces in spinels, (3) 78*b*.
Goodman, C. Material Service tests clay block, (11) 257*e*.
Goodman, G. Ferroelectric behavior in barium zirconium metaniobate, (3) 64*i*.
Goodrich, B. F., Co. Apparatus for metalizing filaments of glass, P (4) 86*b*. Method for [metal] coating filaments of glass, P (8) 190*c*.
Goodson, F. J. Developments concerned with engineering in the pottery industry, (3) 63*e*. Experiments in extrusion, (6) 143*j*.
Googin, J. M. Preparation of high density UO_2, P (3) 62*g*.
Goralske, A. W. See Makovic, F. J., Jr.
Gorban, A. N., and Sokolov, V. A. Semiconductor mechanism of surface-recombination luminescence, (9) 214*i*.
Gorelova, M. N. See Vidro, L. I.
Gorfinkel, B. L. See Tsigler, V. D.
Gorin, E., and Recht, H. L. Shaped porous semiconducting compositions of lithiated nickel oxide, P (4) 98*c*.
Gorodinskii, G. M., Minakov, A. G., and Taol, R. I. Works control of the surface quality of ground glass, (3) 57*d*.
Gorter, E. W. See Esveldt, C. J.; Schulkes, J. A.
Gorum, A. E., Luhman, W. J., and Pask, J. A. Effect of impurities and heat-treatment on ductility of MgO, (6) 147*g*.
Goto, H. See Honjo, T.
Goto, Y., and Takada, T. Phase diagram of the system BaO–Fe_2O_3, (4) 101*h*.
Gottlieb, S. Shaft kilns solve fuel problem in Australia, (5) 107*h*.
Gough, E. J. Method and apparatus for spray coating the interior of hollow articles, P (7) 165*c*.
Goulart de Andrade, E. See Nicot, B. N. F.
Gould, R. E. See West, R. R.
Gould, R. E., and Cope, W. E. Method and means for molding, P (6) 144*b*.
Govoroff, A. Low-temperature transformations of hydrated calcium aluminates, (3) 54*d*.
Govorov, A. A. See Mchedlov-Petrosyan, O. P.
Grabowski, R. J., and Unice, R. C. Quantitative spectrochemical determination of barium and strontium, (7) 177*i*.
Grace, W. R., & Co. Artificial cryolite process, P (4) 99*b*. Catalyst for hydrocarbon conversion reactions, P (2) 45*d*. Method of preparing silica-alumina catalysts, P (3) 71*e*. Preparation of silica sols, P (1) 19*d*.
Gradwell, R. Simple fusion method for determination of plagioclase feldspar from thin section, (3) 77*f*.
Graf, D. L. See Goldsmith, J. R.
Graham, J., Wadsley, A. D., Weymouth, J. H., and Williams, L. S. New ternary oxide, ZrW_2O_8, (1) 20*h*.
Grametbaur, A. B. Selected bibliography of andalusite, kyanite, sillimanite, dumortierite, topaz, and pyrophyllite in the United States, (2) 44*g*.
Grams, W. R. Method of bonding metal borides to graphite, P (2) 40*j*.
Granath, A. G. See McIlvaine, R. L.
Grannis, F. H. See McGuire, T. R.
Granquist, W. T. Flow properties of dilute montmorillonite dispersions, B (9) 223*j*.
Granquist, W. T., and Sumner, G. G. Acid dissolution of a Texas bentonite, B (9) 223*e*.
Grant, N. J. See Cremens, W. S.; Goetzel, C. G.
Graphitwerk-Kropfmuhl A.-G. Process of purifying graphite, P (5) 122*i*.
Graue, G., and Zöhler, A. Microanalytical method for the determination of sulfur in metals, slags, chrome baths, organic substances, and gases, (9) 220*i*.
Grauer, O. H., and Conway, W. S. Precision glass, fabrication and uses, (11) 254*h*.
Gravenor, C. P. Future industrial mineral development in Alberta, (6) 149*j*.
Gravley, C. K. Capacitor of high permittivity ceramic, P (10) 238*d*. Method of forming ceramic capacitors, P (5) 117*f*.
Gray, R. B. Bender type piezoelectric transducer, P (10) 238*b*. See Shoot, L. E.
Gray, W. R. Continuous electroplating apparatus, P (7) 158*e*.
Greaves, E. I., and Mackenzie, J. High-temperature strength of basic refractories, (4) 88*g*.
Greaves, M. J. Method and apparatus for automatically measuring and controlling moisture in a sinter mix or the like, P (8) 196*g*.
Grechanik, L. A. See Matveev, M. A.
Grechanova, S. B. See Azarov, K. P.
Grechny, N., Jr. Microwave controlled grinding of ceramic radomes, (2) 40*c*.
Green, J. Particle separation utilizing a magnetized fluid, P (2) 42*b*.
Green, J. H. See Craven, B. R.
Greenberg, H. See Hansley, V. L.
Greene, B. Furnaces for heat-treatment of articles, P (4) 98*b*.
Greene, J. F., and Hinson, A. L. Apparatus and method for treating interior surfaces of glass containers, P (11) 255*d*.
Greene, J. F., and McCallum, N. H., Jr. Method of treating the surfaces of glass containers, P (11) 256*g*.
Greenfield, S. Spectrophotometric determination of silica in presence of fluorine and phosphorus, (7) 179*g*.
Greenhill, J. M. See Morgan, A. D.
Greening, T. A. See Baskin, Y.
Greenwell, E. Mill additions and their effect on the properties of vitreous enamel, (8) 187*e*.
Gregg, S. J. Observations on the interaction of kaolin and water (I) study of the effect of grinding on kaolinite by thermogravimetric analysis, (7) 176*d*. Preparation of highly dispersed solids, (9) 215*h*. See Dollimore, D.
Grégoire, F. A. A. Method of dissolving orthotitanic acid, P (3) 71*b*.
Gregor, H. P. Polyelectrolyte water-indicating devices, P (9) 217*g*.
Gregor, J. R., and Van Orden, H. E. Abrasives, P (9) 203*g*, P (10) 225*e*.
Gregorius, J. S. Glass stirring mechanism, P (3) 58*b*.
Gregory, J. Ceramics and the construction industry, (6) 149*g*.
Gregory, J. N. See Findlay, J. R.
Gregory, P. Process for cooling hot gases containing suspended titanium dioxide particles, P (5) 122*h*.
Greifer, A. P., and Croft, W. J. Some crystallographic and magnetic properties of square-loop materials in ferrite systems containing copper, (1) 13*c*.
Grekila, R. B., and Root, H. D. Evaluation of several infrared transmissive glasses, (9) 206*i*.
Gremmelmaier, R. See Welker, H.
Grice, L. Use of glazes and engobes in the sanitary ware industry, (7) 162*j*.
Grieger, P. W., and McCabe, E. J. Supporting means for furnace charges, P (10) 240*j*.
Griessbach, R. See Gärtner, K.
Griffith, J. S. See Bradstreet, S. W.
Griffiths, J. H. E., and Orton, J. W. Some weak lines in the paramagnetic resonance spectrum of impure MgO crystals, (9) 221*a*.
Grim, R. E. Vitreous refractory composition and method for making, P (11) 261*f*.
Grim, R. E., and Kulbicki, G. Study of high temperature reactions in clay minerals by X-ray methods, (7) 180*a*.
Grimal, M. Rational technique for the use of steam in the forming and rapid drying of ceramic products, (5) 118*g*.
Grimes, D. M., Legvold, S., and Westrum, E. F., Jr. Molecular field fluctuation effects in mixed nickel-zinc ferrites, (4) 92*a*.
Grimes, W. R. See Barton, C. J.
Grimm, R. See Welker, H.
Grimshaw, R. W. Application of cation-exchange capacity in practice, (9) 218*j*. See Searle, A. B.; Worrall, W. E.
Grindley Hotel Ware Co., Ltd. Means for bedding clayware pieces for biscuit firing, P (10) 236*e*.
Gring, J. L. See Teter, J. W.
Grisaffe, S. J. Thermal expansion of hafnium carbide, (10) 245*g*.
Griss, C. H. See McAuley, J. W.; Wampler, R. W.
Gritsaenko, V. Ya. See Deril, I. S.
Grizo, A., and Tetsilazit'-Stevanovit', M. Use of the thermobalance for the quantitative determination of clays, (1) 15*d*.
Groenema, J. J. Tuyère blocks for underfeed stokers, P (5) 114*i*.
Groner, T. A. See Kranz, C. L.
Gross, J. H. Method of recovering thoria, P (4) 100*d*.
Gross, W. M. See Reid, R. J.
Grossman, J. J. See Benson, S. W.
Grossmann, G. See Ariya, S. M.
Grossmann, G. G. Magnetochemical investigations in the system FeO_{1+x}·MgO ($0 < x < 0.5$), (5) 125*g*.

Grüber, H., and Scheidig, H. Vacuum arc furnace, P (4) 98*d*.
Gruender, O. C. Feeding means for gyratory crushers, P (5) 121*i*.
Gruendling, C. M. Brick handling machine, P (7) 159*g*. Improvement in brick handling machines, P (7) 159*h*.
Grünling, H. Destruction of corundum brick by coal ash, (8) 191*d*. Investigation of the texture of ceramics, in particular fire-clay brick, (4) 88*h*. Nomograms for the polarization microscope (I) birefringence, thickness, and path difference, (8) 197*a*.
Grum-Grzhimailo, S. V., Brilliantov, N. A., and Sviridova, R. K. Absorption spectra of vanadium-colored corundum at low temperatures (down to 1.7°K.), (10) 243*b*.
Grum-Grzhimailo, S. V., Brilliantov, N. A., Sviridova, R. K., and Dzhamalova, A. S. Absorption spectra of rubies at low temperatures (down to 1.7°K.), (10) 243*b*.
Gruver, R. M. Atomistic approach to the adhesion to glass, (11) 253*j*.
Guastalla, J. Study of wetting (II) tensiometric technique, (10) 240*c*.
Günther, K.-G. Measurement of vapor pressure and volatilization rate of glassforming substances, (9) 208*a*. Vaporization method of producing thin layers of semiconducting compounds, P (10) 239*a*.
Guha, S. K., and Sen, S. Application of solubility measurements in the evaluation of plaster of Paris, (5) 106*g*. Solubility of plaster of Paris and its relation to the setting property, (5) 107*j*. Study of the base-exchange property of four Indian china clays, (3) 71*b*.
Guillaud, C. L. Modified ferrites, P (3) 66*g*.
Guillaume, L. Simple control of pozzolanic fly-ash admixture to Portland cement, (3) 54*i*.
Guillery, P. See Keuth, H.
Guinn, E. J. Apparatus for polishing and buffing sink rims, P (8) 187*b*.
Gulf Research & Development Co. Hydrodesulfurization catalyst and method of preparation, P (4) 99*e*. Manufacture of synthetic sodalite, P (4) 99*h*.
Gulton, L. K. Ceramic electrical bodies, P (6) 143*c*.
Gulton Industries, Inc. Ceramic electrical bodies, P (6) 143*c*. Electrical component of ceramic combined with resistor applied to the surface thereof, P (10) 238*h*.
Gupta, A. K. Particle size analysis by sedimentation in a long-arm centrifuge, (2) 42*j*.
Gurevich, Ts. N. See Kitaigorodskii, I. I.
Gurinsky, D. H. Method of coating graphite with stable metal carbides and nitrides, P (4) 89*d*. See Schweitzer, D. G.
Gurova, M. I. See Rabinovich, M. A.
Gur'yanova, M. F. Granulation of glass batches, (9) 207*h*.
Gustafsson, S. Collecting electrode for electrofilter, P (11) 265*i*. Collecting electrode of the hollow box type for electrofilters, P (9) 216*a*.
Gustavsson, E. A. G., and Månsson, B. G. E. Centrifugal wind classifiers, P (6) 146*h*.
Gustin, D. S. Method of coating electric lamp envelopes, P (2) 34*f*.
Guthrie, S. A. See MacMaster, H. D.
Gutman, M. B. See Rubin, G. K.
Gutt, W. See Nurse, R. W.
Gutzow, I. Devitrification of Graham's glass, (7) 156*g*.
Guyer, E. M. Electric glassworking, P (2) 32*j*.
Gwinn, G. R. See Dietrich, W. F.
Gwinn, G. R., and Tucker, G. E. Quartz crystal (electronic grade), (6) 145*h*.
Gwyn, J. D. See Alexander, H. M.

Haagen-Smit, J. See Thayer, L. C.
Haase, T. Mechanism of dry pressing, (9) 215*i*.
Haayman, P. W. See Lemmens, H. J.
Haba, D. S. de la. See White, L. A.
Hack, F. W. Multicone ore concentration apparatus, P (11) 269*e*.
Hackett, J. W. Method and apparatus for making blown plastic articles, P (3) 59*b*.
Hänlein, W. See Müller, H. J.
Hänninen, E. See Wilska, S.
Haffner, E. D. See Schwuttke, G. H.
Hafford, B. C. See Cyr, H. M.
Hage, W. T. See Iager, R. F.
Haggar, R. G. Pottery Through the Ages, B (1) 25*a*.
Haglund, J. H. Flame spraying method and composition, P (10) 226*j*. Kanthal Super—electric resistance elements for 1700°C., (4) 97*h*. Molybdenum disilicide heating elements for element temperatures up to 1700°C., (8) 197*i*.
Hahn, A. D., and Pine, M. M. Examination of ilmenite-bearing sands in Otter Creek Valley, Kiowa and Tillman Counties, Okla., (7) 166*i*.
Hahn, G. T. See Averbach, B. L.
Hahn, H. T. Method of making UO_2-Bi slurries, P (9) 222*c*.
Hahn, M. P. See Boszhardt, A. K.
Hahn, T., and Buerger, M. J. Detailed structure of nepheline, $KNaAl_2Si_2O_8$, (10) 243*f*.
Hahner, C. H. Glass research at the National Bureau of Standards, (9) 207*d*. See Cleek, G. W.
Haidt, H. Sintered carbide and oxide ceramic cutting materials, (11) 249*g*.
Haigh, J. T., and Roloff, R. C. Pulverizing and classifying apparatus, P (10) 239*j*.
Hale, D. R., and Jost, J. M. Method of growing quartz single crystals and seed body therefor, P (6) 149*c*.
Hale, W. T. See Cowling, K. W.
Hall, A. J. C., and Hayes, J. G. Producing scales, patterns, etc., in glass, P (7) 159*c*.
Hall, E. W., and Paone, D. R. Radial face rotary buffing element, P (4) 81*j*. Rotary abrasive element, P (1) 1*h*.
Hall, H. T. Diamond synthesis, P (11) 249*g*. High temperature high pressure apparatus, P (11) 265*d*, P (11) 265*f*. Reaction vessel, P (11) 266*d*.
Hall, H. T., Strong, H. M., and Wentorf, R. H., Jr. Method of making diamonds, P (11) 250*a*.
Hall, R. A. See Butler, J. R.
Hall, R. N. Silicon carbide semiconductor devices and method of preparation, P (5) 118*b*.
Hall, R. W. Process for flattening thermistor flakes, P (2) 41*b*.
Hallmann, E. Calculation of extrusion press for solid particles, (10) 239*b*.
Hallworth, R. Air separation devices, P (9) 216*a*.
Halm, L. Problems of casting-pit refractories, (3) 61*c*.
Halstead, W. J., and Chaiken, B. Alkali-aggregate reaction in concrete (III) review of fundamental research on the alkali-aggregate reaction, (4) 82*j*.
Hamada, T. See Sasaki, Y.
Hamamura, H. (now Ogawa, H.). See Izumitani, T.
Hamann, S. D. Electrical resistivities of some semiconductors at high pressures, (7) 172*b*.
Hamano, K. Microstructure of porcelain bodies (X) stage of deposition of needle crystals of mullite in feldspar grains embedded in a kaolinite body, (7) 175*c*; (XI) matrix phase and pores in bodies consisting of kaolin and feldspar, (7) 175*d*.
Hamilton, D. R. See Seidensticker, R. G.
Hamilton, J. R. Mold holder and finish ring holder locking means [for a glassware forming machine], P (10) 231*c*. Timer for glassware forming machines, etc., P (7) 159*d*.
Hamilton, L. F., and Simpson, S. G. Quantitative Chemical Analysis, B (2) 50*g*.
Hamilton, P. K. See Kerr, P. F.
Hamilton, S. B. History of hollow brick, (6) 137*f*.
Hamister, V. C. Furnace construction for high temperature purification of carbonaceous bodies in halogen-containing gases, P (4) 89*j*.
Hammond, D. L. See Stanley, J. M.
Hampel, L. A., and Wick, W. J. Apparatus for compressing finely divided solids, P (2) 41*h*.
Hampton, W. M. Development of Siemens furnaces for glassmelting, (10) 227*i*.
Hancock, R. A. See Turkdogan, E. T.
Hancock, W. Drying apparatus for clay cakes such as are used in the manufacture of tiles, P (9) 217*f*.
Hand, L. M., and Eliason, J. R. Tiny amplidyne forces correct kiln speed, (3) 55*a*.
Handwerk, J. H. See Baskin, Y.; Lynch, E. D.
Handwerk, J. H., and Bach, R. A. Method of preparing a fuel element for a nuclear reactor, P (1) 10*b*.
Handwerk, J. H., and McVay, T. N. Coatings for the protection of low carbon steel at elevated temperatures, (8) 186*i*. Enamels for metals, (8) 187*c*.
Hankin, J. H., Jr. Potter's wheel and mechanism, P (3) 52*e*.
Hanlet, J. M. N. Method of making electroluminescent layers, P (5) 117*g*. Preparation of layers of electroluminescent materials, P (9) 215*b*.
Hanley, W. L. Ceramic ware drier and preheater and method, P (8) 197*j*.
Hann, G. C. See Beck, W. R.
Hannay, N. B. (editor). Semiconductors, B (5) 130*b*.
Hanot, W. Batching safeguards—first step toward homogeneous glass, (5) 109*f*.
Hansen, M. O. Surface decorating apparatus, P (3) 50*e*.
Hansen, W. C. Aeration cause of false set in Portland cement, (9) 204*a*. Expansion and cracking studied in relation to aggregate and the magnesia and alkali content of cement, (3) 53*d*. See Lerch, W.
Hansford, R. C. Desulfurization process and catalyst, P (4) 99*a*.
Hansley, V. L., Greenberg, H., and Schott, S. Metal halide production, P (4) 99*j*.
Hanson, C. C., and Morgan, A. D. Influence of manganese sulfide segregation on vitreous enameling of gray cast iron, (9) 205*c*.
Hanson, J. B. Effect of higher annealing temperatures on lehr belt alloys, (9) 206*j*.
Hanusch, H. Method of preparing synthetic anhydrite, P (9) 205*b*.
Hanysz, E. A., Quinn, C. E., and Weller, E. F., Jr. Coating thickness gauge, P (5) 119*e*.
Harada, Y. See Baskin, Y.
Harbison-Walker Refractories Co. Brick press batch distributor, P (3) 68*a*. Chemically bonded basic refractory, P (11) 260*f*.
Harder, C. M. Letter about the temmoku glaze, (4) 82*d*.
Harders, F., and Kienow, S. Refractories, B (8) 202*i*.
Hardinge, H. Air classifier, P (10) 230*c*. Autogenous grinding, (4) 95*a*. Comminuting and classifying system and method, P (6) 146*d*. Method and apparatus for concentrating and classifying material, P (1) 18*c*. Pulverizing mill and process of pulverizing material, P (5) 122*d*.
Hardwick, W. H. See Connor, P.
Hardy, C. W. See Lahr, H. R.
Hare, R. Porcelain of the Russian Empire, (2) 28*b*.
Hares, G. B. Image orthicon target, P (2) 33*d*.
Hargreaves, J. Spalling of silica brick, (10) 234*b*.
Harkort, H. (reviser). Experimental Ceramics, B (3) 80*e*. History of the decoration of hard porcelain, (3) 52*f*. History of the German Ceramic Society, (2) 49*b*. Spotlight on Berlin ceramics, (6) 132*c*.
Harman, C. G. Inorganic bonded cores for steel castings, P (8) 192*f*. Production of boric acid, P (1) 10*e*.
Harman, G. G. Electrical properties of $BaTiO_3$ containing samarium, (4) 92*h*.
Harper, F. C., and Stone, P. A. Floor finishes for factories, (1) 22*f*.
Harper, L. E. Tilting disk weigher and feeder, P (6) 114*d*. See Coffman, P. A., Jr.
Harrell, G. O. See Palmour, H., III.
Harris, A. B. See Meyer, H.
Harris, B. See Hughes, W.
Harris, C. C. Method for the routine measurement of particle shape factors in the sieve range, (11) 266*b*.
Harris, R. C. Gap bridging material, P (10) 238*c*.
Harris, W. J., Jr. See Pellini, W. S.
Harris, W. M., Linnell, R. H., and Meredith, W. F. Glass polish and process of polishing glass, P (8) 189*d*.
Harrison, F. W., Osmond, W. P., and Teale, R. W. Cation distribution and magnetic moment of manganese ferrite, (4) 91*j*.
Harrison, G. R. See Rich, D. C.
Harrison, J. L., and Murray, H. H. Clay mineral stability and formation during weathering, B (9) 223*b*.
Harrison, R. See Vaughan, F.
Harrison, S. E. See Callen, H. B.; Kriessman, C. J.
Harry, W. R. Apparatus for forming plastic clay bodies, P (7) 164*j*. Method and apparatus for the manufacture of ceramic ware, P (1) 14*f*.
Harshaw Chemical Co. Process for producing potassium meta-antimonate, P (7) 168*h*.
Hartman, G. H. See Huston, C. R.
Hartmann, H., Weissl, G., and Wegener, W. Volume stability of building lime, (3) 55*c*.
Hartmann, W. Method of aggregating carbonaceous material, P (3) 71*i*.
Hartwell, J. W. Mineral Facts and Problems (preprints): Gem stones, (6) 146*b*.
Hartwell, J. W., and Brett, B. A. Gem stones, (6) 145*g*.
Hartwig, W. J. Vibrating grinding mill having a means for preventing grinding media tracking and excessive mill wear, P (4) 100*g*.
Harvey, R. L. Ferrospinel compositions, P (7) 164*g*.
Harwig, S. H. Testing electrically conductive articles, P (11) 257*b*.
Hasapis, A. A. See Bacon, J. F.
Hasenäcker, E. See Löwenstern, E.
Hashimoto, T. See Nagai, S.
Hastings, J. M., and Corliss, L. M. Antiferromagnetic transition in zinc ferrite, (11) 262*h*. Neutron diffraction study of manganese ferrite, (4) 101*d*.
Hatch, R. A. See Shell, H. R.
Hathaway, J. C. See Faust, G. T.
Hauck Mfg. Co. Proportional mixer, P (3) 69*i*.
Haug, J. See Juza, R.
Haupin, W. E. Hot wire method for rapid determination of thermal conductivity, (5) 119*e*.
Hauser, R. E. See Kraner, H. M.
Hausner, H. H. (compiler) Bibliography on Uranium Dioxide, B (9) 222*h*. (compiler) Data Book on Physical and Engineering Properties of Materials for Nuclear Fuel Elements, B (5) 129*i*. (editor) Modern Materials—Advances in Development and Applications: Vol. 1, B (3) 80*i*. Powder metallurgy in nuclear engineering, (7) 160*c*. See Butler, G. M., Jr.
Hauth, C. R. See Cobaugh, G. D.
Havelka, F. Method and a device for measuring the wall thickness of articles made of ferromagnetic materials, P (8) 195*f*.
Haven, Y. See Kats, A.
Havens, P. E. Measurement of flatness of architectural panels, (2) 30*d*.
Hawker, T. G. Magnetic separators for the ceramic industry, (3) 67*h*.
Hawkins, G. S., and Wolfson, S. H. Origin of tektites (I) solar furnace glass, (10) 228*f*.
Hawley, W. G. See Bennett, H.
Hay, R. See Carter, P. T; Livey, D. T.
Hay, R., Carter, P. T., and Kahl, S. K. Some problems relating to the constitution of liquid slags with special reference to the Na_2O–MnO–SiO_2 system, (1) 21*e*.
Hayashi, E., and Demachi, S. Powder metallurgy (I) trial production of metallic bonded grinding wheel, (2) 27*h*.
Hayashi, N., and Mitsuki, C. Sintering of glass, (10) 229*f*.
Haynes, E. B. Glass Through the Ages, B (9) 224*a*.
Haywood, G. L. Method of forming coated abrasives, P (7) 153*g*.
Heady, H. H. See Lytle, F. W.
Healy, D. W., Jr., and Johnson, R. A. Anisotropy constants and g value of nickel ferrite, (2) 30*c*.
Heard, H. L. Preparation of lead sulfide mirrors, P (8) 190*b*.
Heavens, O. S. Young's modulus of black soda glass fibers, (10) 229*i*.
Hebern, W. D. Separating apparatus, P (3) 68*b*.
Hecht, A. Historical development of electroceramics, (2) 39*f*.
Hecht, A., with Müller, H., Rath, W., and Treufels, H. von. Electroceramics, B (1) 22*j*.
Hedden, W. A. See King, B. W.

Hedden, W. A., and King, B. W. Antimonate glass for infrared-transmitting windows, (8) 187*f*.
Hedden, W. A., Kircher, J. F., and King, B. W. Investigation of some glasses for high-level gamma-radiation dosimeters, (9) 207*f*.
Hedgecock, G. A. Experience with a Beckman flame photometer, (2) 31*h*.
Hedley, N., and Tabachnik, H. Etching of barium glass, P (2) 33*b*.
Hedvall, J. A. Considerations on the effect of pretreatment and transition processes on the adsorption capacity and reactivity of various types of glass and silica modifications, (5) 109*j*. Reaction experiments in powder mixtures of different kinds of glass and SrO, CaO, and MgO, (10) 228*j*. Reactivity in the solid state: Some present results and future aspects mainly relating to its practical applicability, (1) 21*d*.
Heerschap, M., and Levitt, C. M. Eroding of hard crystalline carbon, P (10) 239*b*.
Hegedüs, A. J., Sasvári, K., and Neugebauer, J. Thermal and X-ray investigations on the reduction of molybdenum trioxide and on the oxidation and nitridation of molybdenum, (5) 128*h*.
Hegemann, F., Giesen, K., and Kostyra, H. Spectrochemical determination of minor and trace elements in coals, (3) 69*b*.
Hegemann, F., and Hert, W. Quantitative flame-spectrometric determination of potassium, sodium, calcium, and aluminum in kaolin, (6) 148*f*.
Hegemann, F., and Thomann, H. Spectrophotometric methods for the analysis of clays, (9) 216*g*.
Hohemann, R. F., and Ault, G. M. High Temperature Materials, B (9) 224*c*.
Heidenreich, R. D. Manufacture of germanium translators, P (9) 214*d*.
Heikes, R. R., and Johnston, W. D. Thermoelements and devices embodying them, P (6) 143*f*.
Heil, H. See Ahlburg, H.
Heiligenstaedt, H. E. W. Process and apparatus for heating a cross stream shaft furnace for heating solid materials, particularly for the calcination of limestone, P (11) 252*c*.
Heine, H. W. Manufacture of acoustic fireproof tiles, P (9) 212*b*.
Heine, K. Heat balance diagram of a tunnel kiln and its variation under changing conditions of operation, (3) 69*h*.
Heini, H. Practical ceramic instruction in high schools, (9) 203*j*.
Heinrich, E. W., and Corey, A. F. Manganian andalusite from Kiawa Mountain, Rio Arriba County, New Mexico, (7) 174*g*.
Heise, L. W., and Johnson, M. Soil additive and process for fertilizing and conditioning soil, P (6) 134*b*.
Héjja, A. See Dunay, S.
Heller, G. L. Method of casehardening carbon black pellets, P (2) 45*j*.
Heller, J. H. Method and apparatus for continuous measurement of moisture, P (5) 119*g*.
Helm, G. Shaping and auxiliary equipment for the jollying (jiggering) of ceramic [flat and hollow] ware, (11) 265*b*.
Helmrich, H. Bunsen burner of glass, (11) 253*c*.
Hemley, J. See Meyer, C.
Hemminger, C. E. Hydroforming process using improved silica-alumina catalyst base, P (1) 18*a*.
Hendee, C. F., and Fine, S. X-ray analysis apparatus, P (7) 182*a*.
Hendry, J. M. See Cowden, L. M.
Hendryx, D. B. Building tomorrow's plant today (I, II), (11) 264*g*.
Hengel, M. C. Method for assembling ceramic plug to lead wires for electric blasting caps, P (4) 91*e*.
Hénin, S. See Caillère, S.
Henkel & Cie. A.G. Production of granular perborates, P (2) 45*b*.
Henning, F. E. See Morris, J. R.
Henning, J. E. Glass fiber treatment, P (8) 189*a*.
Henrie, J. O. Properties of nuclear shielding concrete, (3) 54*d*.
Henry, W. E., and Boehm, M. J. Intradomain magnetic saturation and magnetic structure of γ-Fe_2O_3, (2) 46*h*.
Henschel-Werke G.m.b.H. Machine for mixing and comminuting materials, P (11) 266*a*.
Hensler, J. R. Methods of making reticles, P (6) 136*d*.
Henwood, J. B., and Wood, S. C. Burner, P (6) 145*c*.
Heraeus, W. C., G.m.b.H. Coating, P (3) 62*e*. Oxide coating, P (3) 66*f*. Vacuum arc furnace, P (4) 98*d*.
Heraeus, W. H., and Mohn, H. Casings for gas discharge tubes and lamps and process, P (2) 32*e*.
Heraeus Quarzschmelze G.m.b.H. Casings for gas discharge tubes and lamps and process, P (2) 32*e*.
Herbert, J. M. Ceramic material and method of producing, P (11) 263*e*. Method of making ceramic dielectric material, P (8) 195*g*. See Ainger, F. W.; Weston, W. D.
Hercules Powder Co. Slurry feeding and measuring apparatus, P (4) 96*a*.
Hernley, K. P. See Penberthy, H. L.
Hernmarck, C. Swedish porcelain in the 18th century, (4) 82*b*.
Herre, F. See Richter, H.
Herrera, N. A. See Aguilera Herrera, N.
Herron, R. H. See Allen, A. W.
Hert, W. See Hegemann, F.
Herzmark, N., and Leschot, A. Casting mold and method of preparation, P (11) 260*e*.
Hess, F. O. Apparatus for convection heating, P (5) 120*e*.
Hessinger, P. S. Ceramoplastic and method of manufacture, P (1) 13*b*.
Hessinger, P. S., and Weber, T. W. Development of a synthetic mica ceramic suitable for use at 750°C., (3) 64*f*.
Heuer, R. P. [Basic] open-hearth furnace construction, P (8) 192*a*. Process of molding refractory brick, P (2) 37*i*. Refractory brick, P (8) 193*c*. Refractory lining for rotary kilns, P (2) 37*b*.
Heymann, H. G. Methods and apparatus for crushing materials, P (2) 45*i*.
Heymès, P. R. Polishing of glass plates, P (9) 209*i*.
Heymès, P. R., and Pergent, R. C. Apparatus for polishing glass, etc., P (4) 86*d*.
Heynes, M. S. R. See Tomlinson, J. W.
Hickmott, T. W. Interaction of atomic hydrogen with glass, (7) 156*f*.
Hicks, W. W. Panel electric heater, P (6) 137*a*.
Higashi, C. See Sawai, I.
Higginbotham, G. H., Oliver, D. R., and Ward, S. G. Studies of the viscosity and sedimentation of suspensions (IV) capillary-tube viscometry applied to stable suspensions of spherical particles, (1) 21*i*.
Higgins, R. See Eaton, N. F.
Higgins, Inc. Method of making expanded cellular cement products, P (10) 226*e*.
Highhouse, F. See Earle, W. R.
Hilema, H. H. Copper coating process, P (4) 86*h*.
Hilgers, G., and Steinbach, H. Gasification of oil and the importance of the gas for kiln firing, (3) 69*e*.
Hilkemeier, L. G. Aggregate recovering machine, P (5) 121*f*.
Hill, D. C. See Kingery, W. D.
Hill, F. T. See Cardell, J.
Hill, J. S. Composite material, P (11) 255*a*.
Hill, V. G., and Roy, R. Silica structure studies (VI) tridymites, (11) 271*e*.
Hille, J. See Wolf, F.
Hilliker, N. W. See Jones, A. H.
Hine, E. W., II. See Powischill, J. W.
Hinkle, J. M. Glass-sealed resistor, P (8) 195*c*.
Hinlicky, J. A. See Kirshenbaum, I.
Hinson, A. L. See Greene, J. F.
Hirai, M. See Ishii, E.; Sano, S.; Sugiura, M.
Hirai, M., Sugiura, M., Sano, S., and Ishii, E. Forsterite porcelain as a high frequency insulator (VII) properties of silica rich forsterite porcelain, (8) 193*g*.
Hirao, K. See Imoto, F.
Hirayama, C. Volatility of lead silicate and lead borate binary melts, (11) 254*e*.
Hirayama, K. See Takemoto, K.
Hirsch, P. B. See Cartz, L.
Hiscocks, E. S. Laboratory Administration, B (1) 24*h*.
Hitchcock, W. J. Salt crystal-to-glass seal, P (4) 94*g*.
Hitchner, W. G. Gauging apparatus and method of operation, P (7) 158*b*. Method and apparatus for inspecting glass spheres, P (3) 59*a*.
Hitzeman, R. L. See Roup, R. R.
Hladik, W. B. See Plummer, N.
Hlaváč, J. See Procházka, S.
Hobart, E. A. Apparatus for distributing and separating ore, P (10) 241*e*.
Hobart Brothers Co. Apparatus for distributing and separating ore, P (10) 241*e*.
Hobbie, A. C., and Holdcraft, J. W. Apparatus and method for packing pulverulent material, P (11) 268*d*.
Hobin, J. L. Apparatus for thermometer manufacture, P (2) 32*j*.
Hochwalt, C. A. Water-soluble fluorescent dye-coated hydrophobic silica and process of making, P (9) 218*h*.
Hodgins, P. T. Effect of brick facial texture upon the initial rate of absorption, (3) 60*a*.
Hodgson, J. Refractories used in coke ovens, (11) 259*d*.
Hodson, P. Purge system for electrostatic precipitator, P (9) 216*d*.
Hoeganaes Sponge Iron Corp. Feeding chute for metal powder rolling mill, P (5) 121*i*.
Höhne, E. See Dornberger-Schiff, K.
Hoekstra, A. H. See Stuyts, A. L.
Hoekstra, J., and Michalko, E. Catalyst manufacture, P (1) 17*j*.
Hoenig, C. L. See Lynch, E. D.
Hoff, J. M. See Seltzer, R. E.
Hoffman, H. E. Porous plaster bodies and method of making, P (4) 83*b*.
Hoffman, J. E. Bonding of adsorbent materials, P (4) 89*d*.
Hoffman, J. I. Valences of the elements in analytical procedures, (7) 181*b*.
Hoffman, L. C. Nontoxic aluminum enamel frits, P (5) 109*b*. Vitreous enamel frit, P (8) 187*f*. See Statton, W. O.
Hoffman, W. von. See Schaub, F.
Hoffmann, A. See Fischer, W. A.
Hoffmann, O. Dutch architecture around 1900, (5) 112*i*.
Hofmann, F. Mold-hardness measurement and standard testing equipment, (1) 15*f*.
Hofmann, U. See Clauss, A.; Scharrer, E.
Hofmann, U., Czerch, W., and Scharrer, E. Cause of the dry cross-bending strength of clays, (7) 169*f*.
Hofmann, U., Fahn, R., and Weiss, A. Thixotropy in kaolinite and intercrystalline swelling in montmorillonite, (5) 129*a*.
Hofmann, U., and Nemetschek, T. Small angle scattering of X rays by clay minerals, (5) 127*d*.
Hofmann, W. Experiences with the use of fuel oil for heating a shaft kiln, (9) 217*c*.
Hogan, C. L. Ferrites, (9) 213*j*.
Holcomb, J. A. See Saunders, S. G.
Holdcraft, J. W. See Hobbie, A. C.
Holden, A., and Singer, P. Crystals and Crystal Growing, B (10) 246*h*.
Holderreed, F. L., and Sullivan, R. E. Production of silica-free alumina, P (11) 269*g*.
Heldridge, D. A. Composition variation in ball clays, (9) 217*i*. Compositional variation in Etruria marls, (6) 145*j*.
Holland, W. S. How Connecticut sells masonry, (1) 7*b*.
Hollinger, G. R. Sealing arbor, P (6) 143*d*.
Holloway, D. G. Strength of glass fibers, (5) 111*e*.
Holm, H. A. R. Method for burning clay slate or clay, P (11) 268*i*.
Holm, J. C. Rotary kiln drive mechanism, P (4) 98*b*.
Holme, R., and Frost, K. (editors). Decorative Art 1958–59, B (1) 22*j*.
Helmes, W. H. Effect of HF vapor on clays, (11) 270*b*.
Holton, W. C. See Castner, T., Jr.
Holtz, E. F. See Britton, O. J.
Holtzberg, F. Silver niobate ferroelectric materials, P (11) 264*c*.
Holz, P. Fluorspar in South Africa, (10) 241*a*.
Holzman, G. R., Anderson, J. H., and Koth, W. Spin-lattice relaxation time of the ^{29}Si nucleus in pure fused silica, (10) 245*c*.
Homer, H. H. See Butler, K. H.
Honjo, T., Goto, H., and Watabe, Y. Rapid analysis of magnesia clinker used for basic refractories by the EDTA method, (11) 259*c*.
Hoopes, H. P., and Riesenberg, W. P. Method for preheating cementitious insulating material, P (4) 83*a*.
Hoopes, H. P., Weber, H. L., and Neal, J. R., Jr. Method of making calcareous-siliceous insulating material, P (2) 29*d*.
Hopkins, B. J. Charge localization on the surfaces of oxide-coated cathodes, (10) 237*d*. See Davies, D. E.
Hopkins, B. J., and Vick, F. A. Thermionic and related properties of calcium oxide, (10) 237*j*.
Hopkins, F. L. Method of and apparatus for evacuating air from bag body at time of filling, P (10) 241*b*.
Hopkins, F. L., and Ayres, R. H. Fluid pressure operated device for auger feeding granular or powdered material, P (4) 99*c*.
Hoppe, R. Correlations between the heats of formation of inorganic compounds—new methods for the estimation of ΔH values, (5) 124*a*. Structure classification of ternary fluorides and oxides, (5) 128*c*.
Hoppe, R., and Schepers, B. Properties of alkali indates, $LiInO_2$ and $NaInO_2$, (5) 126*i*.
Horecky, S. Device for measuring and for regulating moisture content of soil or the like, P (3) 68*j*.
Horl, M. Statistical aspects of fracture in concrete (I) analysis of flexural failure of Portland cement mortar from the standpoint of stochastic theory, (5) 107*b*.
Hori, Y. See Argon, A. S.
Horizons, Inc. Method of making ceramic dielectric, P (11) 264*b*. Preparation of rutile from ilmenite, P (5) 122*a*. Production of boric acid, P (1) 19*e*. Production of $Ca(H_2PO_4)_2$, P (5) 122*a*. Production of titanium dioxide, P (10) 242*d*. Seal material, P (9) 212*f*.
Horn, K. S. Two-step method of making calcium oxide from calcium sulfate, P (2) 46*a*.
Horne, W. A., and Montgomery, C. W. Hydrodesulfurization catalyst and method of preparation, P (4) 99*c*.
Horte, C.-H. See Wiegmann, J.
Horton, R. A. See Feagin, R. C.
Hortvet, R. M. Method of glass coating metal members, P (7) 155*i*.
Hose, H. See Welfers, E.
Hosking, J. S., and Hueber, H. V. Moisture expansion, "moisture movement," and "drying shrinkage" of structural clay products, (9) 210*c*. Permanent moisture expansion of clay products on natural exposure, (4) 88*b*.
Hosking, J. S., Hueber, H. V., Waters, E. H., and Lewis, R. E. Permanent moisture expansion of clay products (I) brick, (8) 190*g*.
Hoskins Mfg. Co. Method and apparatus for prolonging life of thermocouples, P (4) 97*b*. Thermocouple element, P (4) 97*a*.
Houdry Process Corp. Moving-bed vapor-phase treatment of kaolin clays, P (7) 167*c*. Preparation of active contact masses from kaolin clays, P (3) 71*g*.
Hougen, A. O. Investigation of silicone film on glass by means of radioactive tracer technique (6) 134*i*.
Housam, E. C. See Northcott, R. P.
Houseman, D. H., and White, J. Development of bond strength during firing—a new approach and its technical implications, (6) 138*a*.
Houston, B. J. See Buck, A. D.
Houston, H. H. Method of expanding perlite, P (1) 18*d*.
Houtermans, F. G. Hazards of and precautions to be taken in the manufacture and working of optical glasses containing thorium, (7) 156*a*.
Houwink, R. Principles of the adhesion phenomenon—an introduction to the problems of adhesion, (5) 126*h*.
Hove, J. E., and Smith, A. W. Interpretation of the low-temperature conductivity of graphite, (4) 98*g*.

Howard, G. R. See Powischill, J. W.
Howard, P. See Garrels, R. M.
Howard, P., and Roberts, A. L. Study of alumina suspensions (III) effect of aging on rheological and casting behavior, (2) 48*e*.
Howe, A. F. Centrifugal separation, P (5) 121*h*.
Howe, E. D. See Akobjanoff, L.
Howe, J. P. See Finniston, H. M.
Howe Scale Co. Apparatus for effecting automatic batching of composite mixtures, P (8) 196*d*.
Howe Sound Co. Calcium aluminate binder, P (5) 113*f*.
Howell, S. N., and Derganc, W. Pyrometer, P (7) 166*e*.
Hower, J. Matrix corrections in the X-ray spectrographic trace element analysis of rocks and minerals, (3) 75*f*. See Toler, L. G.
Howes, V. R. Critical stress for the production of pressure crack figures on diamond faces, (9) 219*i*.
Howie, R. A., and Broadhurst, F. M. X-ray data for dolomite and ankerite, (3) 70*f*.
Howles, D. A., and Wright, J. W. T. Electric lamps, P (9) 209*c*.
Hoy, J. K. Mechanical testing with a 3000°F. radiant heat furnace, (4) 97*j*.
Hoyi, A. G. See Thompson, J. V.
Hsing, L. See Liu, H.
Hubbard, D. See Pike, R. G.
Hubbard, D. W. Carbon brick for lining blast furnaces, (4) 88*d*.
Hubbard, S. E. See Taylor, R. B.
Hubbell, D. S., and Weaver, E. P. Enameled aluminum products and methods of making, P (8) 187*b*. Enameling of aluminum alloys, P (8) 187*d*.
Hubbell, J. P. Apparatus for handling mixtures of solid materials, P (2) 41*j*.
Hubble, D. H. See Eusner, G. R.
Hubble, D. H., and Dodge, N. B. Study of commercial periclases, (8) 192*e*.
Huber, H., Keller, H., Rohlfs, H. A., and Dewald, W. Process for the manufacture of aluminum phosphate, P (7) 168*c*.
Huber, H., and Thien-Chi, N. Oxide coated cathode supports, P (7) 156*a*.
Huber, J. M., Corp. Apparatus and method for treatment of clay, P (4) 98*j*. Method and apparatus for spray drying, P (6) 146*c*.
Hubert, T. D. See Montgomery, R. L.
Huckert, G. See Plötze, E.
Hueber, H. V. See Hoaking, J. S.
Hübner, W. W. G., Lange, E., and Rindlisbacher, E. Production of granular perborates, P (2) 45*k*.
Hübscher, M. See Watzek, O.
Hübscher, M., and Löffler, W. Apparatus for technical control of the glassmelt, (3) 56*c*.
Hüttenwerk Oberhausen A.G. Apparatus for the analysis of hot dust-laden gases, P (1) 16*a*.
Hütter, L. Basic arch for reverberatory furnace, P (8) 192*j*. Basic roof for reverberatory furnaces, P (2) 37*c*.
Hüttig, W. See Ginsberg, H.
Huffadine, J. B. See Moore, N. C.
Huffadine, J. B., and Sanders, R. W. Resistors and resistor materials, P (2) 37*d*.
Huggins, C. W. Electron micrographs of asbestiform minerals, (6) 145*i*.
Hughes, G. B., and Baker, R. J. Low temperature porcelain enameling at Frigidaire, (6) 133*k*.
Hughes, R. C. Dispenser cathode, P (8) 195*a*.
Hughes, W., and Harris, B. Preparation of titanium dioxide, P (9) 218*b*.
Hughes Aircraft Co. Ferromagnetic microwave device, P (4) 93*f*. Method of manufacturing impregnated ferrite, P (8) 195*c*.
Huibregtse, E. J., and Young, D. R. Triple hysteresis loops and the free-energy function in the vicinity of the 5°C. transition in $BaTiO_3$, (4) 102*g*.
Hull, C. J. See Wagner, W.
Hulse, C. O., and Pask, J. A. Mechanical properties of magnesia single crystals in compression, (8) 201*a*.
Hummel, F. A. Thermal shock resistant ceramic body, P (7) 162*j*. See Argyle, J. F.; Murthy, M. K.; Sarver, J. F.; Sastry, B. S. R.
Hummel, F. A., Tien, T. Y., and Kim, K. H. Studies in lithium oxide systems (VIII) application of silicate liquid immiscibility to development of opaque glazes, (5) 115*b*.
Hund, R., and Wirsig, S. S. Electrode connecting nipple, P (10) 235*a*.
Hungerford, G. P., and Yarze, J. C. Glass fiber dispersions, sheets, plastic impregnated sheets, and methods of forming, P (3) 58*j*.
Hunt, W. D., Jr. Contemporary Curtain Wall, B (4) 103*e*.
Hunter, R. S. New reflectometer and its use for whiteness measurement, (5) 119*g*.
Hurst, D. W. S., and Bradshaw, J. Developments in steel shot and its applications to vitreous enameling, (8) 186*j*.
Hurt, N. A., and Mortimore, H. Improvement relating to the purification of soluble silicates, P (10) 241*g*.
Huser, R. J. Slurry loader for centrifugal machines, P (5) 122*h*.
Husimi, K. Dynamic properties of the polarizability in $BaTiO_3$ crystal, (5) 116*c*.
Husimi, K., and Kataoka, K. Nondestructive method of measuring polarization for the study of ferroelectrics, (9) 214*f*.
Huston, C. R., and Hartman, G. H. Cyclone discharge chamber, P (4) 95*c*.
Hutcheon, J. M. Method of producing a carbon body of increased density, P (7) 161*e*.
Hutchings, J., and Roberts, J. P. Influence of storage atmosphere on the sintering of zinc oxide pressings, (10) 236*d*.
Hutchings, R. A., Schwichtenberg, H. J., and Bubley, H. J. Lens grinding means, P (10) 230*d*.
Hutchins, S. F., and Robinson, G. P., Jr. Method of fabricating Luneberg lenses, P (10) 230*i*.
Hutter, J.-C. Process for preparing dense filterable beryllium hydroxide, P (1) 19*c*.
Hutton, U. O. See Lloyd, E. C.
Huwood Mining Machinery, Ltd. Troughed conveyer [apron belt], P (6) 144*e*.
Hyde, J. F. Coated illuminating glassware and method of manufacture, P (2) 32*f*.
Hyslop, J. F. Differentiation of aluminous materials by contraction tests, (3) 60*f*. Examination of some refractory-slag reactions by contraction tests, (6) 139*i*.
Hytönen, K. See Sahama, T. G.

Iager, R. F., and Hage, W. T. Fuel burner and igniter arrangement, P (8) 198*a*.
Ibrahim, A. A.-k. Method for measuring the dynamic viscosity and dynamic rigidity of viscoelastic liquids (II), (11) 271*e*.
Ibrahim, A. A. K., and Bakr, M. Y. Flow properties of some Egyptian raw materials, (5) 120*i*.
Ibrahim, A. A. K., and Kabiel, A. M. I. Experimental and theoretical investigations on the oscillating cylinder viscometer for Newtonian liquids, (10) 240*a*.
Ignat'eva, L. A. Study of α- and β-spodumene by infrared spectroscopy, (7) 179*f*.
Ignatova, T. S. See Ol'khovskii, I. A.
Iida, S., Sekizawa, H., and Aiyama, Y. Uniaxial anisotropy in iron-cobalt ferrites, (6) 142*h*.
Iida, Y. Evaporation of lithium oxide from solid solution of lithium oxide in nickel oxide, (4) 101*c*. Lattice parameter of nickel oxide as a function of lithium oxide dissolved, (5) 125*d*. Time dependence of NiO-Li_2O solid solution formation, (3) 78*h*.
Iizuma, T. See Shiraki, Y.
Ikehata, T. See Murakami, K.
Ikeno, S. See Kaji, K.
Ilenda, F. P., and Foster, J. L. Binder for foundry molds, P (7) 161*h*.
Ilenda, F. P., and Peeler, C. E., Jr. Alkali metal silicate binder for foundry sand molds and process, P (3) 62*d*.
Iler, R. K. See Alexander, G. B.
Illinois Clay Products Co. Chemically bonded vermiculite insulating blocks and method for manufacturing, P (5) 114*e*.
Illinois Testing Laboratories, Inc. Surface contact pyrometers, P (11) 267*g*.
Imamura, T. See Oki, S.
Imaoka, M. Studies on the conditions of glass formation, (11) 254*b*.
Imelik, B. See Prettre, M.
Imelik, B., Mathieu, M.-V., and Prettre, M. Study of an alumina gel with large specific surface, (1) 21*j*.
Imoberstag, U. See Buser, W.
Imoto, F., and Hirao, K. Application of the orthogonal array to the calculation of the "refractory index" in multicomponent glasses, (11) 253*i*. High-lead glasses (II) viscosity of high-lead borosilicate glasses, (11) 254*b*.
Imperial Chemical Industries, Ltd. Automatic weigher, P (7) 165*c*.
Inagaki, K. Tests for vacuum casting of saggers, (11) 259*g*.
Indenbom, V. L. Stresses in plate glass and methods of measuring them, (6) 135*d*.
Indiana General Corp. Adjustable [rotating drum] permanent magnetic separator, P (11) 265*d*.
Industrial Mica Corp. Mica flat handling systems, P (9) 214*h*.
Industrial Nucleonics Corp. Moisture measuring system, P (5) 119*g*.
Ingenieurbüro Kaswant. Manufacture of mineral and glass fibers by the blast technique, (11) 264*h*. New economical method of "blowing" molten silicate fibers, (11) 264*i*. Use of molybdenum metal in the glass industry, (7) 157*e*.
Ingham, H. S., and Shepard, A. P. Metallizing Handbook: Vols. I and II, B (6) 151*h*.
Ingraham, J. N. Tin-modified ferromagnetic chromium oxide, its preparation and use in recording members, P (6) 143*g*.
Ingraham, J. N., and Swoboda, T. J. Antimony-modified chromium oxide ferromagnetic compositions, their preparation and use, P (6) 143*h*.
Ingram, M. G. See Drowart, J.
Innes, D. D. Spectrographic analysis of some minor constituents in refractories, (4) 88*i*.
Inoue, K. See Okuda, S.
Insley, H. See Weaver, C. F.
Insley, H. A., Pask, J. A., and Pincus, A. G. Report on three international meetings, (11) 273*f*.
Insolio, T. A. Glass cutter trolley unit, P (10) 230*b*.
Institut de Recherches de la Siderurgie. Pyrometer of the suction type, P (6) 144*j*.
Institutum Divi Thomae Foundation. Mounting for electrodes in glass vessels, P (6) 143*b*.
International Business Machines Corp. Silver niobate ferroelectric materials, P (11) 264*c*.
International Clay Machinery of Delaware, Inc. Apparatus for compacting granular materials, P (4) 95*j*.
International Minerals & Chemical Corp. Cyclone separator, P (8) 196*f*. Drier for granular materials, P (8) 196*g*. Electrostatic method and apparatus for beneficiating minerals, P (1) 18*d*. Feeding apparatus for analyzer, P (7) 166*a*. Fibrous agglomerate, P (2) 37*d*. Method of expanding perlite, P (1) 18*d*. Method for manufacture of aluminum fluoride, P (6) 146*d*. Method of recovering thoria, P (4) 100*d*. Preparation of fluorine compounds, P (11) 269*a*. Process for beneficiating ores, P (11) 269*b*. Process for recovering lithium values, P (7) 168*a*. Production of potassium bicarbonate, P (2) 45*f*. Production of potassium carbonate, P (2) 46*a*.
International Nickel Co., Inc. Coated electrode for welding cast iron, P (1) 4*c*.
International Process Equipment Co. Mill, P (8) 196*g*.
International Standard Electric Corp. Electric semiconductor devices, P (7) 164*c*. Formation of ceramic moldings, P (10) 239*c*. Process of making manganese-zinc ferrite, P (7) 164*d*. Process of making transparent luminescent screens, P (2) 34*f*.
International Telephone & Telegraph Corp. Image storage screens and method of making, P (1) 13*d*. Method of cutting semiconductive material, P (4) 94*c*.
International Ytong-Stabalite Co., Ltd. Method for the production of lightweight concrete, P (11) 252*a*.
Ionics, Inc. Method for producing titanium tetrachloride, P (7) 167*d*.
Iowa State College Research Foundation, Inc. Apparatus for measuring diffusion coefficients of soil in place, P (4) 96*j*.
Irland, M. J., and Schermer, E. B. Transparent coating, P (2) 34*f*.
Irving, D. R. Mineral Facts and Problems (preprints): Graphite, (6) 146*b*; Talc, soapstone, and pyrophyllite, (6) 146*b*. See Dietrich, W. F.
Irving, D. R., and Brett, B. A. Graphite, (6) 145*h*.
Isard, J. O. Electrical conduction in the aluminosilicate glasses, (2) 31*e*.
Ishido, Y. See Fujii, K.
Ishii, K. See Hirai, M.; Sano, S.; Sugiura, M.
Ishii, K., Sugiura, M., Sano, S., and Hirai, M. Forsterite porcelain as a high frequency insulator (I) properties of forsterite porcelain from talc and sea-water magnesia, (4) 90*f*; (IV) body containing cordierite, (4) 90*h*.
Ishii, T. See Ueta, M.
Ishikawa, E. See Mori, S.
Ishikawa, Y. Electrical properties of $FeTiO_3$-Fe_2O_3 solid solution series, (6) 142*e*.
Ishikawa, Y., and Sawada, S. Study on substances having the ilmenite structure (I) physical properties of synthesized $FeTiO_3$ and $NiTiO_3$ ceramics, (6) 142*e*.
Isoda, K. See Nagami, K.
Isomura, M., Maeda, T., and Nishimura, T. Humidity drying (I) drying of clay in a sealed vessel, (6) 141*f*.
I-T-E Circuit Breaker Co. Mechanical rectifier for arc furnace, P (7) 166*d*.
Ito, I. See Takemoto, K.
Ito, M. See Yamada, T.
Ito, S. See Teraoka, I.
Ito, T. See Mitsuki, C.
Ito, Y., and Kato, E. Vitrified abrasive wheels (II) relation between melting state and electrical conductivity of bonds, (3) 51*f*.
Ito, Y., and Kato, S. Vitrified abrasive wheels (III (I)) melting and softening state of bonds, (2) 27*f*.
Ivanov, E. V., Chuprinin, F. I., and Minskii, Ya. M. Measurements of elastic aftereffects during pressing of magnesite bodies, (9) 211*d*.
Ivanov, S. M. See Bernshtein, R. S.
Ivanov, S. M., and Belova, M. I. Investigation on a model of two types of blending equipment in the heating zone of tunnel kilns, (8) 197*f*.
Iversen, A. H. Ferromagnetic microwave device, P (4) 93*f*. Method of manufacturing impregnated ferrite, P (8) 195*c*.
Iyanskii, A. Z. See Shapiro, I. E.
Iwabuchi, T. See Saito, C.
Iwamoto, M. See Munakata, M.
Iwanami, S. Technical viscometer (I–VI), (3) 68*h*.
Iwata, M. See Iwata, T.
Iwata, T., Iwata, M., and Yamamoto, M. Magnetic annealing effect in α-Fe_2O_3, (3) 64*g*.
Izumitani, T., Terai, R., and Hamamura, H. (now Ogawa, H.). Optical glass, P (5) 112*c*.
Izushi, T. See Tasaki, J.

Jablkowski, J. New definition of glass, (6) 135*b*. Polish glass industry, (6) 135*c*.
Jackman, E. A., and Roberts, J. P. Strength of polycrystalline and single crystal corundum, (7) 179*c*.
Jackson, A. See Clabaugh, W. S.
Jackson, A. S. See Siebenthal, K.
Jackson, M. L. Frequency distribution of clay minerals in major great soil groups as related to the factors of soil formation, B (9) 223*g*.
Jackson, P. J. See Jones, K. W.
Jackson, W. M., II. Method of firing ceramic composition, P (5) 115*i*.
Jacob, K. Effect of moisture of the raw material on several constants of grinding-drying installations with air classification, (3) 67*f*.
Jacobs, C. W. F. What's the status of zirconium type abrasives? (1) 1*f*.
Jacobs, H. Method of making silicon carbide rectifiers, P (8) 195*a*.
Jacobs, I. S. Evidence for triangular moment arrangements in MO·Mn_2O_3, (1) 12*j*.
Jacobs, J. E. Semiconductor, P (9) 215*d*.

Jacobs, T. Kinetics of the thermal dehydration of kaolinite, (4) 101*d*.
Jacoby, H. See Pohlman, W. E.
Jacoby, W. R. See Ploetz, G. L.
Jäntsch, O. Theory of linear crystal growth in supercooled melts, (10) 245*e*.
Jaffe, H., Berlincourt, D., and McKee, J. M. Effect of pressure on the Curie temperature of polycrystalline ceramic barium titanate, (4) 92*g*.
Jaffe, H., and Turobinski, T. J. Method of growing quartz single crystals, P (6) 149*b*.
Jaffé, H. H. See Notz, K. J.
Jagodzinski, H. See Saalfeld, H.
Jakob, K. Rotary kilns with inserted sludge driers, (1) 16*c*.
Jakobsson, P. Å. H. Method for the production of lightweight concrete, P (11) 252*a*.
Jamieson, J. C., and Lawson, A. W. High-temperature heat conductivity of some metal oxides, (3) 75*h*.
Janoski, E. J. Process for catalyst preparation, P (1) 19*g*.
Janowitz, R. Equalizer structure for masonry saws, P (7) 165*b*.
Jansen, M. J. See Lemmens, H. J.
Janson, M. H. See Rhodes, C. C.
Jarrell-Ash Co. Spectrometer and means for shifting its spectral radiations relative to the focal plane, P (10) 246*d*.
Jaskowsky, J. See Reuter, B.
Jeannette Glass Co. Container construction, P (5) 111*g*.
Jebsen-Marwedel, H. (editor). Technical Defects of Glass Manufacturing, B (9) 224*d*.
Jeffery, P. G., and Wilson, A. D. Precipitation of manganese in silicate rock analysis, (9) 220*f*.
Jeffrey, J. W. See Simons, H. S.
Jeffrey Mfg. Co. Conveyer idler stand, P (7) 165*d*. Material crushing apparatus, P (10) 241*j*.
Jeffries, E. H., Jr. Cutting car top replacement costs, (1) 8*c*. Hillsboro, N.C., site of new mineral grinding plant for pyrophyllite company, (11) 273*f*.
Jenaer Glaswerk Schott & Gen. Method and apparatus for melting glass, P (7) 159*d*. Method of producing structural parts of a combination of glass and plastics, P (3) 59*e*.
Jenike, A. W. On the level: this belt conveyer goes straight up, (10) 239*b*.
Jenkins, E. E. See Cramer, R. H.
Jenkins, E. L. Electric gun for glass rolling machine, P (10) 230*e*.
Jenny, D. A., and Jensen, R. V. Method for single crystal growth, P (1) 21*g*.
Jensen, N. C. See Larson, L. P.
Jensen, O. Mechanical rectifier for arc furnace, P (7) 166*d*.
Jensen, R. V. See Jenny, D. A.
Jeschar, R. Importance of heat conduction in brick firing, (8) 190*f*.
Jewett, P. D. Machine for cutting germanium, silicon, quartz, and other hard materials, P (5) 118*g*.
Jewstropjew, K. S. See Evstrop'ev, K. S.
Jinno, H. See Kunugi, M.
Jitts, H. R. Adsorption of phosphate by estuarine bottom deposits (of two Australian rivers), (1) 17*a*.
J. & L. Associates, Inc. Fire finishing machine for glass articles, P (3) 58*c*.
Jochmann, F. Carbon-yellow and sulfur-yellow glass—coloration of glasses by sulfides, (5) 109*h*. Glass from quartz sand and calcium and sodium sulfides—influence of temperature and oxygen on the sulfides, (7) 156*c*. Uranium for the glass and ceramic industries, (6) 149*j*.
Joel, N. See Wooster, W. A.
Jönck, P. See Juza, R.
Jönsson, B. See Simmingsköld, B.
Jönsson, B., and Rosenkrands, B. Method for objective appraisal of cord and stone formation from pots, (5) 110*d*.
Jörgensen, R. Process for the protection of carbon electrodes for electric furnaces, P (11) 261*a*.
Johannesson, J. K. Note on the determination of low concentrations of sulfate in rain and other waters, (7) 176*c*.
Johansen, R. T., and Dunning, H. N. Water-vapor adsorption on clays, B (9) 223*b*.
Johansson, F. K. E. See Kalling, B. M. S.
Johansson, S. See Richter, H.
Johns-Manville Corp. Machine for the continuous manufacture of asbestos-cement pipes, P (8) 186*d*. Method and apparatus for forming condensed glass fiber mats, P (4) 80*j*. Mixing apparatus, P (2) 42*f*. Porous ceramic plant husbandry equipment and methods of production thereof, P (10) 231*h*.
Johnson, A. L. Purpose and activities of Glass Container Industry Research Corp., (5) 110*i*.
Johnson, D. P. See Lloyd, E. C.
Johnson, E. S. Process of calcining gypsum, P (4) 83*c*. See Dailey, M. C.; Nies, B. W.
Johnson, G. H. See Bryant, E. E.
Johnson, G. O. Porcelain enamel on steel for curtain-wall construction, (5) 108*e*.
Johnson, H. See Fang, P. H.
Johnson, J. A. Slip-house practice and the preparation and control of pottery bodies, (3) 63*b*.
Johnson, J. E. Development of lightweight aggregate from Ohio clays and shales, (10) 231*f*.
Johnson, J. R. Apparatus for arranging irregularly shaped glass containers, P (7) 157*h*. Bottle decorating machine and bottle chucking device therefor, P (7) 158*b*. See Struxness, E. G.
Johnson, J. R., and Taylor, A. J. Method for preparation of UO_2 particles, P (3) 62*c*.
Johnson, M. See Heise, L. W.
Johnson, O. H. Grinding mills, P (8) 196*d*.
Johnson, P. D. Concave grating spectrographic instrument, P (11) 273*c*.
Johnson, P. V. See Taylor, R. B.
Johnson, R. A. See Healy, D. W., Jr.
Johnson, W. See Andrews, K. W.; Cockbain, A. G.
Johnston, W. D. See Heikes, R. R.
Johnstone, H. F. Apparatus for cleaning gases with electrostatically charged particles, P (7) 164*j*.
Joint Standing Committee for the Pottery Industry. Dust Extraction Systems in the Pottery Industry, B (1) 22*g*.
Joisel, A. Ball crusher, P (9) 216*c*.
Jona, F. See Mazzi, F.
Jona, F., and Pepinsky, R. Symmetry of the low-temperature phase of $BaTiO_3$, (10) 245*b*.
Jona, F., Shirane, G., Mazzi, F., and Pepinsky, R. X-ray and neutron diffraction study of antiferroelectric lead zirconate, $PbZrO_3$, (10) 245*i*.
Jonassen, H. B. See McNeill, W.
Jones, A. H., and Hilliker, N. W. Dust collector, P (10) 230*f*.
Jones, K. W., and Jackson, P. J. Paints based on Portland cement, P (8) 186*f*.
Jones, L. M., and Linda, F. R. Method and apparatus for de-aerating bags during filling, P (6) 146*a*.
Jones, M. E. Method of making ohmic connections to silicon semiconductor devices, P (8) 195*h*.
Jones, P. J. Strontium ceramics and glasses, (7) 157*e*. See Amphlett, C. B.
Jones, P. R. See Dean, G.
Jones, R. V. See Rodrigue, G. P.
Jones, S. Phosphor coating of improved adherence and preparation thereof, P (3) 59*g*.
Jones, W. D. Metal ceramics, (5) 113*g*.
Jonker, G. H., Wijn, H. P. J., and Braun, P. B. Ferromagnetic material, P (11) 263*g*.
Joormann, H. J. M. See Santen, J. G. van.
Joormann, H. J. M., and Zalm, P. Electroluminescent element, P (4) 93*j*.
Jorgensen, P. J., Wadsworth, M. E., and Cutler, I. B. Effects of oxygen partial pressure on the oxidation of silicon carbide, (5) 113*d*. Oxidation of silicon carbide, (1) 20*a*.
Joseph, W. See Podschus, E.
Jost, J. M. See Hale, D. R.
Jouenne, C. A. See Bidet, J. P.
Joy Mfg. Co. Apparatus for controlling electrical precipitators, P (9) 216*b*.
Jucha, W. Highest cement works in the world, (3) 54*c*.
Judd, D. M. Porcelain enamels for light metals, P (7) 156*a*.
Jübermann, O. See Fischer, W.
Julien, C. A. See Carter, R. E.
Jumpertz, E. A. See Sánchez Conde, M. del C.
Jungbluth, H. Studies on the rating of molding sands, (5) 113*c*.
Junge, A. E. Manufacture of plate glass, P (9) 203*e*. Prepolishing plate glass, P (9) 209*j*.
Just, J. Zircon and fireclay-zircon refractory products, (11) 259*j*.
Justi, E., Scheibe, W., and Winsel, A. Double skeleton catalyst electrode, P (7) 161*j*.
Juza, R., and Bünzen, K. Reaction of CaS, SiO_2, and Al_2O_3 with calcium carbide melts up to 2900°C., (5) 127*f*.
Juza, R., Gieren, W., and Haug, J. Preparation and properties of ternary nitrides of vanadium, niobium, and tantalum with the formula Li_3MeN_4, (5) 126*g*.
Juza, R., Jönck, P., and Schmeckenbecher, A. Formation and properties of chlorographite, (1) 19*i*.
Juza, R., and Schmeckenbecher, A. Magnetochemical investigations of the action of halogens on graphite, (1) 20*e*.
Juza, R., Wainoff, G., and Uphoff, W. Heat of formation of aluminum phosphate, $AlPO_4$, (5) 125*e*.

Kabanov, N. P. See Zherebin, S. I.
Kabel-es Muanyaggyar. Sintered alumina articles, P (11) 262*d*.
Kabi, S. K. See Hay, R.
Kabiel, A. M. I. See Ibrahim, A. A. K.
Kadokura, T. See Nakahara, M.
Kaffenberger, R. See Smith, G. H.
Kahn, A. Studies on the size and shape of clay particles in aqueous suspension, B (9) 223*a*.
Kahn, H. Apparatus for metalizing filaments of glass, P (4) 86*b*.
Kainarskil, I. S., and Pindrik, B. E. Use of Dinas chromite in the checkers of regenerators of open-hearth furnaces, (10) 234*e*.
Kainarskil, I. S., and Shavrova, E. B. Elastic properties of Dinas and their dependence on basic technological factors, (9) 210*g*. Regularity of change in the elastic properties of Dinas during heating, (10) 233*f*.
Kainarskil, I. S., and Shcheglova, M. D. Investigation of the dependence of the phase composition of silica on the composition of the mineralizers and grading of the bodies, (9) 210*i*. Strength of Dinas and its modification during firing at 1600°, (1) 9*d*.
Kainzner, A., and Neu^orfer, F. Simple reduction determination of manganese, (11) 271*g*.
Kaiser, G., and Kaiser, H. Method and apparatus for the manufacture of small articles or pellets from paste material, P (3) 68*a*.
Kaiser, H. See Kaiser, G.
Kaiser Aluminum & Chemical Corp. Chemical process for extracting monohydrate alumina containing materials, P (11) 268*f*. Furnace structures, P (10) 240*j*. Metal clad refractory bricks, P (4) 89*c*. Process of precipitating alumina hydrate from a pregnant caustic aluminate liquor, P (9) 218*d*. Process for preparing calcium aluminate and alumina from phosphate-containing ores, P (3) 72*d*.
Kaji, K., Tsuda, T., and Ikeno, S. Adsorption of surface-active agent on gypsum, (1) 2*f*.
Kajihara, H. See Yamada, K.
Kajima, K. See Tasaki, J.
Kakiemon Research Committee (compiler). Old Imari, B (5) 130*j*.
Kalling, B. M. S., and Johansson, F. K. E. Method of counteracting too high temperature attack on the furnace lining when melting and refining molten metal by means of oxygen containing gases in a rotary furnace, P (3) 62*a*.
Kalman, P. G. Calculation of stresses induced in glass by quenching, (6) 134*h*. Nonuniform toughening of a glass disk, (7) 157*c*.
Kalnajs, J. See Smakula, A.
Kalnins, I. L. See Flaschen, S. S.
Kalousek, G. L. Synthesis of chrysotile, P (7) 168*g*.
Kamb, W. B. Crystal structure of zunyite, (9) 219*j*. Isogyres in interference figures, (3) 75*i*.
Kamenchik, A. E. See Marants, A. G.
Kaminskaya, V. S. See Bezborodov, M. A.
Kaminskil, V. K. See Gin'yar, E. A.; Strelets, V. M.
Kaminskil, V. K., Pankratov, D. I., and Kushnerik, N. I. Test on the use of foam filters, (5) 118*i*.
Kamiya, Y. New fine focus X-ray tube, (5) 119*f*.
Kamlet, J. Hydraulic cements, P (11) 251*i*. Process for the manufacture of cryolite, P (7) 168*d*.
Kammerer, O. F. See Schweitzer, D. G.
Kanaoka, S. See Kato, E.
Kanda, M. See Yoshii, T.
Kangro, W., Wuttke-Peschel, I., Wiebke, G., and Krackow, R. Properties of Fe(III) oxide, (5) 126*j*.
Kantor, A. J. See Tucker, L. G., Jr.
Kantro, D., Brunauer, S., and Weise, C. H. Ball-mill hydration of tricalcium silicate at room temperature, (7) 169*g*.
Kaplan, M. F. Flexural and compressive strength of concrete as affected by the properties of coarse aggregates, (3) 53*h*.
Kapp, N. M. See Ashwill, R. E.
Kappmeyer, K. K. See Busner, G. R.
Kapustina, T. P. Polishing ceramic materials by free abrasion, (2) 41*g*.
Kapustina, T. P., and Bykova, A. A. Grinding ceramic materials with bonded abrasives, (3) 67*f*.
Karaulov, A. G. See Margulis, O. M.
Kardas, R. S., Routsis, K., and Chartier, A. G. Pendulum type spectrograph, P (8) 197*a*.
Karlene, E. L. See McAuley, J. W.
Karlovitz, B., Lewis, B., and Kiba, G. von. Glass fiber production, P (7) 158*h*.
Karlovsky, E. P. Quality control testing of porcelain enamel frits and mill additions, (1) 3*g*.
Karns, G. M. Function and fate of the research chemist and engineer in industry, (9) 222*f*.
Karpechenko, V. G. See Kitalgorodskil, I. I.
Karrer, A. S. Observations on the effect of automation on cost reduction, (6) 133*i*.
Karyakin, L. I., and Nazarenko, N. D. Effect of technological factors on the microstructure of magnesite (periclase) refractories, (1) 8*d*.
Karyakin, L. I., and Pyatikop, P. D. Petrographic study of the action of iron oxide on chrome spinelides during heating, (3) 60*j*.
Kasai, J. See Nakahara, M.
Kasper, J. S., and Lonsdale, K. (editors). International Tables for X-Ray Crystallography (Vol. 2) Mathematical Tables, B (6) 151*g*.
Kaswant, I. See Ingenieurbüro Kaswant.
Kataoka, K. See Husimi, K.
Kato, C. Differential thermal analysis of clay minerals between 0° and −195°C., (7) 172*a*.
Kato, E. Sintering of TiC-base cermet (I) automatic recording apparatus for expansion and contraction during sintering, (2) 36*j*. See Ito, Y.
Kato, E., Kanaoka, S., Choshi, I., and Takashima, H. Opaque glazes and colored opaque glazes (III) coloring of tin oxide opaque glazes by chromium, (1) 10*i*.
Kato, E., and Naka, S. Sintering of TiC-base cermet (II) shrinkage of TiC-Ni compact by heating in vacuum, (7) 160*i*.
Kato, K. See Kuroda, E.
Kato, M. See Kawashima, C.; Minowa, S.
Kato, S. See Ito, Y.; Kuroda, E.; Naito, R.
Katz, A., and Haven, Y. Infrared absorption bands in alpha quartz in the 3-micron region, (11) 254*d*.
Katsurai, T., and Kitahara, A. Note on the hydrothermal reactions caused by autoclaving, (5) 126*b*.
Katz, H. W. (editor). Solid State Magnetic and Dielectric Devices, B (5) 130*k*.
Katz, J. J., and Sheft, I. Method of preparing metal fluorides, P (1) 10*c*.
Katz, S. See Appel, A. V.
Katz, S., and Weber, C. W. Continuous gas analyzer, P (7) 165*j*.
Kaufman, A. S. Measurement of very high temperatures, (8) 196*j*.
Kautz, K. Vitreous enamel compositions for aluminum and its alloys, P (4) 84*d*.
Kautzky, F. C. See Kremers, H. E.
Kaveler, H. H. Gypsum cements, P (4) 83*f*.
Kawai, N. See Nakamura, H.; Noguchi, C.
Kawamura, S. See Munakata, M.
Kawashima, C., Saito, S., and Kato, M. Fundamental studies on pressing of powder by hydrostatic pressing method (I) studies on pressing of TiC–Co system cermet, (4) 95*b*.

Kawashima, C., Saito, S., and Setaka, N. Measurements of thermal constants of ceramic products and raw materials (I) measurement of thermal diffusivity and conductivity of heat insulators by the method of periodic heat wave applied to a finite plane, (7) 174*j*.
Kawashima, C., and Setaka, N. Dielectric amplifier elements of the system $BaTiO_3$–$PbSnO_3$, (10) 237*f*. Effects of additions of pentavalent cations on the electrical properties of barium titanate ceramics, (8) 194*j*.
Kay, S., and Warren, E. P. Man-made vs. natural diamond powders, (3) 51*g*.
Kay, S. E. See Ball, R. J.
Kaye, G. See Blackman, M.
Kazan, B. Storage tube, P (3) 59*c*.
Kazankin, O. N., Pekerman, F. M., and Petoshina, L. M. Electroluminescence of ZnS-Cu-Mn phosphors in a constant field, (9) 213*j*.
Kazitani, K. Experiment with the thermobalance method, (1) 14*j*.
Kear, R. W. Constant temperature corrosion probe, (2) 42*g*.
Keasbey & Mattison Co. Apparatus for molding articles from material in slurry form, P (2) 42*a*. Composite building unit, P (11) 251*f*.
Keat, P. P. New crystalline silica, (3) 76*d*.
Kebler, R. W. See Rudness, R. G.
Keefer, G. E. Apparatus for blanket charging glass batch in a glass furnace, P (3) 57*e*. Bearing structure with gastight seal, P (4) 86*g*. Method for blanket charging glass batch, P (4) 87*d*. Oxidation shield for electric [glass] furnace electrodes, P (8) 190*a*.
Keeleric, G. F., and Williams, L. A., Jr. Dressing of abrasive tools, P (1) 1*h*.
Keeling, P. S. Geology of fire clays, (2) 44*f*. Simple aid to clay mineral identification, (3) 77*e*.
Keen, H. J., Papaieck, R. J., and Gilbert, A. J., Jr. Constant temperature chamber, in particular a crystal oven, P (5) 117*f*.
Kessaer, W. C. Spectrometer specimen holder, P (10) 246*d*.
Keiding, P., and Sylvest, K. J. Method and apparatus for nodulization of pulverulent materials, P (7) 165*b*.
Keil, T. See Ehrlich, P.
Keim, L. A. Method for pressing laminated glass, P (11) 256*e*.
Keinath, G. Measurement of thickness, (2) 47*a*.
Keirnan, C. G. Lump breaker for vacuum drier, P (11) 265*j*.
Keitel, G. A. Manufacture of ceramic articles, P (10) 227*c*.
Keith, C. D. Method for preparing aluminum hydrate compositions, P (1) 18*g*. Process for preparing a catalyst, P (3) 72*c*.
Keith, C. D., and Seligman, B. Calcination of macrosize alumina hydrate, P (4) 99*e*.
Keith, M. L. See Van Hook, H. J.
Keler, E. K., and Veselova, Z. I. Linear changes of fire-clay grog bodies during firing and reheating, (2) 35*h*.
Kellagher, R. C. See Ashby, G. E.
Keller, H. See Huber, H.
Keller, J. N. See Olson, A. W.
Keller, W. D. See Slaughter, M.
Kelley, F. R., Cleveland, G. B., and Arkley, R. J. Field trip to the Ione clay area, B (9) 223*a*.
Kelley, K. K., Barany, R., King, E. G., and Christensen, A. U. Some thermodynamic properties of fluorphlogopite mica, (2) 47*h*.
Kellogg, M. W., Co. Chemical conversion processes using a specially prepared molybdenum oxide catalyst, P (4) 99*h*.
Kelly, T. M. See Benedict, S. W.
Kelvin & Hugh, Ltd. Light sensitive devices, P (6) 144*i*.
Kemp, M. J. See Baskin, Y.
Kendall, E. H. Vibratory conveyer sand seals for pusher type furnaces, P (5) 120*g*.
Kenmore Research Co. Lapping compound, P (11) 250*a*.
Kennaway, A., and Pigott, O. R. Automatic weigher, P (7) 165*c*.
Kennecott Copper Corp. Liquid-liquid extraction process for the recovery of high purity thorium oxide, P (11) 268*h*.
Kennedy, D. O. Mineral facts and problems (preprints): Asbestos, (7) 167*b*; cement, (7) 167*b*.
Kennedy, D. O., and Foley, J. M. Asbestos, (6) 145*g*.
Kennedy-Van Saun Mfg. & Eng. Corp. Swing-jaw crushers, P (1) 19*g*.
Kent, B. B. De-enameling and re-enameling of sheet steel, (8) 186*j*.
Kerber, H., and Platz, R. Polymerization of olefins with a catalyst of chromium oxide on aluminum orthophosphate, P (8) 199*b*.
Kerr, J. T. See Todd, B. J.
Kerr, P. F. See Kopp, O. C.
Kerr, P. F., and Hamilton, P. K. Chrome mica-clay, Temple Mountain, Utah, (3) 73*i*.
Kerstan, W. Single coat white enameling, (11) 252*g*.
Kerstan, W., and Köhler, R. Alginic acid esters as an aid in glaze slips, (6) 140*i*.
Keshishyan, T. N. See Kreshkov, A. P.
Keshishyan, T. N., and Epel'baum, M. B. Relation between microhardness and microheterogeneity of glass, (10) 229*b*.
Keutgen, W. A., Duvall, C. R., Daniels, R. S., and Noyes, R. D. Abrasive articles, P (3) 52*a*.
Keuth, H., Rotter, H.-W., and Guillery, P. Heat-resistant electric insulation, P (3) 66*a*.
Keyser, W. L. de, and Cypres, R. Formation of tridymite—new findings, (1) 19*j*.
Keyte, M. J., and Gloag, H. L. Lighting of factories, (1) 22*d*.
Khananashvili, L. M. See Kreshkov, A. P.
Khemolvskii, V. I., and Minakov, A. G. Service of refractories for melting technical glass in continuous glass tanks, (9) 211*f*.
Khetya, A. L. See Sinyanskii, V. I.
Khol, F., and Šilhánek, J. Apparatus for determining the optical density of sheet materials and particularly for indicating the photometric curve of X-ray photographs, etc., P (3) 70*e*.
Khol, F., and Taiaš, J. Apparatus for the evaluation of X-ray photographs [Debye-Scherrer], P (11) 273*b*.
Khramov, P. G., and Sokolov, I. G. Beneficiation of glass sands in a hydrocyclone, (1) 17*d*.
Kibbey, D. R. See Moore, H. D.
Kidd, F., and Kidd, T. D. Conveyer rollers [for a troughed belt], P (10) 239*j*.
Kidd, T. D. See Kidd, F.
Kiefer, C. Effect of structure and texture on the properties of phyllitic minerals, (5) 124*e*.
Kiefer, J. See Plötze, E.
Kieffer, R. See Nowotny, H.; Schwarzkopf, P.
Kienow, S. See Harders, F.
Kikuchi, H. See Tanaka, T.
Kikuchi, T. Thermoluminescence of glasses, (4) 85*f*.
Kiley, W. R. Universal detector for the X-ray spectrograph, (7) 165*g*. See Croke, J. F.
Kim, C. Random notes on literary references to Koryo ceramics, (2) 28*b*.
Kim, K. H. See Hummel, F. A.
Kimbe, C., Eitaka, T., and Kondo, M. Field and laboratory study on concrete for road construction, (2) 28*j*.
Kimberlin, C. N., Jr. See Gladrow, E. M.
Kimberlin, C. N., Jr., and Buchmann, F. J. Preparation of catalyst particles, P (1) 19*b*.
Kimberly, N. P. Continuous [strand] winding apparatus, P (8) 189*c*.
Kimble Glass Co. Forming glass articles, P (8) 189*e*. Gauging apparatus and method of operation, P (7) 158*b*. Machine for sealing faceplates to cathode-ray tubes, P (11) 256*f*. Method and apparatus for inspecting glass spheres, P (3) 59*a*. Pneumatic take-out apparatus for glassware, P (7) 159*c*. Preoxidation [by hydrogen] of stainless steel for glass-to-metal sealing, P (8) 150*a*. Shears for severing mold charges of plastic glass, P (6) 137*b*.
Kimpton, D. D. See Anderson, S.
Kinase, W., and Takahashi, H. 180°-type domain wall of $BaTiO_3$ crystal, (2) 40*a*.
King, B. W. See Hedden, W. A.
King, B. W., and Hedden, W. A. Antimony oxide glass, P (5) 111*c*.
King, B. W., and Smalley, A. K. Opaque glass, P (11) 252*i*.
King, B. W., and Tripp, H. P. Electrically conductive glass composition containing suboxides of titanium, P (8) 189*c*.
King, B. W., Tripp, H. P., and Duckworth, W. H. Nature of adherence of porcelain enamels to metals, (1) 3*g*.
King, E. G. See Kelley, K. K.
King, J. W. H. Accelerated test for the 7 and 28 day compressive strengths of concrete, (10), 225*h*.
King, W. R. Carbon black wet pelleting process and apparatus, P (11) 260*d*.
Kingery, W. D. Densification during sintering in the presence of a liquid phase (I) theory, (7) 171*c*. (editor) Kinetics of High-Temperature Processes—Report of Endicott House Conference on Kinetics of High-Temperature Processes, June 1958, B (10) 246*i*. Property Measurements at High Temperatures, B (6) 152*d*. Thermal conductivity (XIV) conductivity of multicomponent systems, (1) 21*d*.
Kingery, W. D., Hill, D. C., and Nelson, R. P. Oxygen mobility in polycrystalline $NiCr_2O_4$ and α-Fe_2O_3, (10) 244*j*.
Kingery, W. D., and Narasimhan, M. D. Densification during sintering in the presence of a liquid phase (II) experimental, (7) 171*d*.
Kingsbury, R. N., and Caroselli, R. F. Dye composition and method of dyeing tightly wound glass fibers sized with a water swellable material, P (2) 32*i*.
Kingston, D. L., and Leach, B. H. Lamp bulb feeder, P (5) 112*c*.
Kinnear, J. A. C. See Mariner, P. F.
Kinney, H. C. See Muehleck, E.
Kippe, O. Method of producing magnesia and calcium nitrate from dolomite, P (4) 100*f*.
Kircher, H. See Noll, W.
Kircher, J. F. See Hedden, W. A.
Kirkham, D., and Adams, J. E. Apparatus for measuring diffusion coefficients of soil in place, P (4) 96*j*.
Kirkman, P. J., and Tisler, M. S. Apparatus for polishing glass sheets, P (6) 135*j*.
Kirova, S. M. See Zhilin, Z. I.
Kirshenbaum, I. See Gilbert, G. R.
Kirshenbaum, I., and Hinlicky, J. A. Preparation of eta-alumina by acid hydrolysis, P (3) 71*i*.
Kishii, T. Density change of glass by heating (V) borosilicate glasses, (4) 84*j*.
Kiss, A. E., and Patla, N. Measurement of the quantum efficiency of a proportional counter using X rays, (7) 174*i*.
Kissel, R. Pyrometer of the suction type, P (6) 144*i*.
Kistler, S. S. Grinding machine, P (5) 105*h*.
Kita, M. See Mitsuki, C.
Kitahara, A. See Katsurai, T.
Kitaigorodskii, I. I., Balburt, L. G., Zertsalova, I. N., Karpechenko, V. G., and Fainberg, E. A. Investigation of the possibility of obtaining "vizhurit" glass, (8) 188*i*.
Kitaigorodskii, I. I., and Gurevich, Ts. N. Intensifying the grinding of alumina in the glass and ceramic industries, (2) 41*f*. New developments in the synthesis of corundum mikrolit, (9) 217*j*.
Kitchener, J. A. See Cooper, C. F.
Kiyoura, R. See Sata, T.
Klages, A. P. Stahlton system (I–VI), (2) 35*b*.
Klasens, H. A. Red luminescent material, P (2) 46*a*. See Elings, G. A.
Kleg, H. Installation of a "curved sieve" for the purification of clay suspensions, (11) 264*j*.
Klein, A. Berlin porcelain, (6) 131*h*. Ceramics in English museums, (11) 250*c*. Hydraulic cementitious mixtures, P (2) 29*j*. Indian porcelain? (6) 131*i*. Investigations of historic glazes, (6) 132*a*.
Klein, A., and Troxell, G. E. Studies of calcium sulfoaluminate admixtures for expansive cements, (8) 186*d*.
Klein, C., and Podschus, E. Paper containing an organic fluorescent dye, P (7) 167*f*.
Kleiner, F. Glass filter plates in glass apparatus construction, (7) 156*j*.
Kleist, D. Method and apparatus for the attenuation of heat softenable materials into fibers, P (9) 209*d*.
Klemm, W. Magnetism of KCr_3O_8, (5) 125*g*.
Klerk, J. de. See Truell, R.
Klimowski, J., and Pietrazak, J. Effect of hydrostatic pressure on the dielectric properties of $BaTiO_3$, (7) 163*a*.
Klöckner-Humboldt-Deutz A.-G. Apparatus for separating dust from hot gas, P (7) 166*a*.
Kloidt, J. Plaster molds, (6) 141*d*.
Kluz, S. See Wehrmann, R. F.
Knapp, G. S. Dinnerware making apparatus, P (1) 11*g*, P (3) 64*d*, P (8) 194*e*.
Knapp, O. Crystallization ability and composition of silicate glasses, (9) 206*d*. Devitrification and thermal history, (9) 206*f*.
Knapp, W. J., and Van Vorst, W. D. Activities and structure of some melts in the system Na_2SiO_3–$Na_2Si_2O_5$, (1) 4*e*.
Knaust, H. See Kritter, U. von.
Knight, A. J. Image storage screens, P (1) 13*d*.
Knight, M. A. Cords in glass (I–IV), (11) 253*e*.
Knighton, H. J. Ream in flat glass, (9) 208*e*.
Knippenberg, W. F. See Lemmens, H. J.
Knizek, I. Some aspects of crystallization in the system α-alumina–silica (I), (7) 178*i*.
Knowles, J. A. History of copper ruby glass, (5) 185*i*.
Knox, K. Magnetic materials, P (11) 264*e*.
Knox Glass, Inc. Recirculating furnace, P (11) 256*i*.
Knudsen, K. J. Pyrometer circuit, P (8) 198*b*.
Kobayashi, J., Okamoto, S., and Ueda, R. Dielectric behavior of lead titanate at low temperature, (1) 12*d*.
Kobayashi, K. See Oinuma, K.
Kodama, T., and Ugai, M. Relation between total and local compressive strength of cylindrical mortar specimens, (2) 29*d*.
Koehler, E. Complex thermal analysis and its use in technical and physicochemical research, (5) 123*h*.
Köhler, E. See Schmidt, W.
Köhler, R. See Kerstan, W.
Köhler, W. See Schwab, G. M.
Koehler, W. C. See Wollan, E. O.
Koehler, W. F. See Bennett, H. E.
Koehler Mfg. Co. Separators for storage batteries, P (4) 91*g*.
Kähne, K. H. Forming of hollow glassware by moving, particularly rotating, tools, (7) 156*j*. Increasing the output of interlocking-tile presses, (6) 141*i*.
Koelewijn, A. See Elings, G. A.
Koenig, P. J. Method for producing tool steels containing titanium carbide, P (11) 260*i*.
Kohl, W. H. Materials and Techniques for Electron Tubes, B (7) 183*c*.
Kohlenscheidungs, G. m.b.H. Pulverizing system, P (5) 122*d*.
Koide, K. See Tachibana, S.
Kolfman, I. S. See Matveev, M. A.
Koike, N. See Yamada, T.
Koisman, I. E. See Gin'yar, E. A.
Kolbi, P., and Meesmer, K. Sintering of shaped cemented metal bodies, P (4) 90*a*.
Koleda, M., and Mrazek, F. Exhaust hoods for electric arc furnaces, P (8) 198*b*.
Kolesova, V. A. Infrared absorption spectra of the silicates containing aluminum and of certain crystalline aluminates, (10) 244*a*.
Kolesova, V. A., and Ryskin, Ya. I. Infrared absorption spectrum of hydrargillite, $Al(OH)_3$, (10) 244*b*.
Kolmar Laboratories, Inc. Apparatus for compressing finely divided solids, P (2) 41*h*.
Kolthoff, I. M., and Belcher, R. Volumetric Analysis (Vol. 3) Titration Methods—Oxidation-Reduction Reactions, B (4) 104*j*.
Kolthoff, I. M., and Elving, P. J. (editors), with the assistance of Sandell, E. B. Treatise on Analytical Chemistry (Vol. 1 or Part I), B (6) 152*g*.
Kondo, M. See Kimbe, C.
Kondo, S. Fading of coloration of irradiated glass, (7) 156*g*.
Kondoh, H. See Uchida, E.
Konopicky, K. Appearance of the pore structure [of refractories] and the pore size distribution, (8) 191*a*. Generalities on the structure of fire-clay brick, (8) 191*f*. Statistical relation between cold compressive strength, porosity, and gas permeability of refractory materials, (11) 259*j*.

Koonce, S. E., and Berting, F. M. Electron microscopy of ceramics, (1) 19*b*.
Kooy, A. A. A. See Reich, H. F.
Kopelkin, A. A. Ceramic industries need modern muffle and electric tunnel kilns, (2) 43*b*.
Kopelman, B. Materials for Nuclear Reactors, B (10) 247*b*.
Kopp, O. C., and Kerr, P. F. Differential thermal analysis of pyrite and marcasite, (3) 74*c*. Differential thermal analysis of sphalerite, (3) 74*c*.
Koppers Co., Inc. Electrical precipitator, P (6) 144*a*, P (7) 165*a*. Process of producing lightweight aggregate, P (11) 252*a*.
Korányi, G. Surface hardness of sheet glass untreated and treated with vapors of metal chlorides, (7) 157*b*.
Korchagina, Z. F. See Minakov, A. G.
Koreiova, A. I. Polishing glass with fine abrasive powders, (4) 81*f*.
Korger, M. Drying ceramic ware with complicated shapes, (8) 193*g*.
Korzhinskii, D. S. Physicochemical Basis of the Analysis of the Paragenesis of Minerals, B (10) 247*e*.
Koshlyak, L. L. Method of evaluating the efficiency of clayworking equipment, (8) 196*a*.
Kostanyan, K. A. See Manvelyan, M. G.
Kostic, A. H. Glass bending mold, P (10) 230*g*.
Kostin, V. I. See Bronshtein, Z. I.
Kostyra, H. See Hegemann, F.
Kostyuk, V. A. See Skrebtsov, A. M.
Koth, W. See Holzman, G. R.
Kothari, L. S., and Singwi, K. S. Thermal inelastic scattering of cold neutrons in polycrystalline graphite, (10) 245*g*.
Kotlensky, W. V. See Martens, H. E.
Kotlyar, A. E. Increased output of press-and-blow machines, (8) 188*b*.
Kotova, T. S. See Shmeleva, N. A.
Kotsch, W. E. Electric lamp, P (7) 158*a*.
Kouvel, J. S. Specific heat of a magnetite crystal at liquid helium temperatures, (2) 47*i*.
Kovel'man, G. A. See Yurchak, I. Ya.
Kovtunenko, G. A., and Orlova, V. M. Determining the fusibility of enamels by the shadow method, (8) 186*b*.
Kozlova, E. I. See Livson, Z. A.
Kozuka, T. See Fukuo, N.
Kozyreva, L. A. See Zhikharevich, S. A.
Krackow, R. See Kangro, W.
Kraft, C. W. Are we taking enough profit? (1) 7*a*.
Kramers, W. J., and Smith, J. R. Symposium on properties of nonstoichiometric compounds: Some properties of refractory nonstoichiometric oxides, (7) 180*f*.
Krane, B. F. See Davis, F. E.
Kraner, H. M. Low fired silica brick, P (2) 37*g*. Refractories of three centuries ago—ceramics in the Saugus blast furnace circa 1650, (9) 211*j*.
Kraner, H. M., Padfield, R. C., and Hauser, R. E. Casting large sections of basic refractories, (11) 258*f*.
Kranz, C. L., and Groner, T. A. Composition for building blocks, P (2) 29*g*.
Krause, G. See Fischer, W.
Krause, H., Vogel, W., and Wessel, H. Explanation of glass defects in the manufacture of optical and technical glasses, (9) 207*a*.
Kremers, H. E., Newman, D. W., and Kautzky, F. C. Process for extracting rare earths from ores and residues, P (1) 19*b*.
Kremser, H. Ability of trass to "fix" lime and its influence on the stability of concrete, (7) 154*b*.
Kreshkov, A. P., Keshishyan, T. N., Myshlyaeva, L. V., and Khananashvili, L. M. Investigation and use of synthetic organic silicates, (8) 198*c*.
Kriegel, W. W. See Palmour, H., III.
Kriessman, C. J. See Callen, H. B.; Matcovich, T. J.
Kriessman, C. J., and Harrison, S. E. Cation distributions in ferrospinels—magnesium-manganese ferrites, (7) 160*c*.
Krijger, P. See Engel, W. F.
Krishnan, R. S. Progress in Crystal Physics (Vol. I) Thermal, Elastic, and Optical Properties, B (11) 274*j*.
Krishnaswami, S. P., and Sen, S. Durability of glass containers of different capacities, (5) 110*c*. Glass containers used in the [Indian] fruit preservation industry, (5) 110*i*.
Kristensen, P. A. Testing and sorting device for miniature [magnetic] cores, P (6) 143*e*.
Krisztinkovich, B., and Krisztinkovich, M. G. Hungarian majolica art called "Habana," (1) 1*j*.
Krisztinkovich, M. G. See Krisztinkovich, B.
Kritter, U. von, and Knaust, H. Endless belt trough conveyers, P (9) 216*b*.
Krivol, M. I. See Rabinovich, M. A.
Kroko, L. J. Silicon carbide rectifier, P (9) 215*e*.
Kroko, L. J., and Chang, H. C. Fused junctions in silicon carbide, P (9) 214*a*.
Kroll, W. O. H. Apparatus for separating dust from hot gas, P (7) 166*e*.
Kronberg, M. L. See May, J. E.
Kronberg, M. L., and May, J. E. Ductility of magnesium oxide single crystals, (9) 219*e*.
Kroone, B., and Blakey, F. A. Reaction between carbon dioxide gas and mortar, (9) 204*f*.
Krüger, G. Experiences with oil heated chamber kilns, (9) 217*b*.
Krueger, H. H. A. See Berlincourt, D.
Krüger, M. See Petzold, A.
Krug, J., and Goltz, L. Pulverizing system, P (5) 122*d*.
Kruijer, G. G. Process for supplying heat to a bed of finely divided refractory material, P (11) 269*j*.
Krupicka, S. Magnetic aftereffects and electron diffusion in MgMn ferrites, (9) 214*d*.
Krus, A. C. Blast noise suppressor for an explosive operated kiln device, P (7) 166*f*.
Ktitorov, P. M., and Zalchenko, G. E. Continuous action mining machines (for winning clay), (1) 17*h*.
Kubitschek, H. E. Electronic measurement of particle size, (7) 165*g*.
Kubsh, L. M. Abrasive disk, P (7) 153*h*.
Kudaka, K. See Nakamura, H.
Kudrina, T. I. Decorating porcelain with films of aluminum, (9) 213*b*.
Kühnl, H. See Ehrlich, P.
Kuhlman, A. L. Drinking cup construction, P (4) 82*c*.
Kuhs, R. Effect of gypsum on cement clinkers with various alumina contents, (7) 154*k*.
Kukarkin, A. I. Use of open-hearth Dinas brick for the crown of a glass tank, (8) 188*h*.
Kukolev, G. V., and Pitak, N. V. Effect of peptizers on the output of a pug mill for preparing earthenware bodies and kaolin-bentonite suspensions, (5) 115*c*. Use of bentonite for the production of earthenware, (2) 30*a*.
Kulbicki, G. See Grim, R. E.
Kulcsar, F. Titanate ceramic compositions and articles, P (5) 118*a*.
Kulcsar, F., and Cmolik, C. G. Ferroelectric ceramic composition, P (4) 93*c*.
Kulik, A. I., Safronenko, S. A., and Salganik, L. D. Use of electrofilters for purifying flue gases of drying drums, (3) 67*f*.
Kulik, A. I., and Salganik, L. D. Production of magnesite inserts for steel-pouring nozzles, (6) 139*f*.
Kulp, J. L. See Damon, P. E.
Kumar, S. Glasses in systems containing lead oxide, boric oxide, alumina, and phosphorus pentoxide, (9) 207*e*. See Ram, A.
Kumar, S., and Sinha, B. C. Estimation of arsenic in glass by polarographic method, (9) 206*g*. Estimation of lead in glass and enamel by polarographic method, (4) 84*j*. Estimation of selenium in ruby glass by polarographic method, (4) 85*b*. Simultaneous estimation of titanium and iron in silicates by polarographic method, (7) 178*j*.
Kundra, M. C., and Patwardhan, D. K. Titania opacified enamels, (10) 226*h*.
Kunitomo, Y. See Nakahara, M.
Kuno, H. Effect of density and viscosity of liquids on sedimentation volume of powders, (5) 124*j*.
Kuntzsch, E., and Rabe, G. Fire concrete building elements, a new manufacturing branch of the refractory industry of the DDR (East Germany), (6) 132*a*.
Kunugi, M. See Sawai, I.
Kunugi, M., and Jinno, H. Fundamental studies on gas flow in a furnace by model experiments using liquids, (5) 120*f*.
Kure, F. Glaze defects, their characteristics, causes, and prevention, (8) 193*j*.
Kuroda, E. Copper-red color in frit glaze (III) coloring with various gases, (9) 212*j*; (IV) effects of Al_2O_3 and SiO_2 in the batch, (9) 212*i*; (V) effects of glaze constituents on maturing conditions and coloring of copper-red glaze, (9) 212*j*; (VI) coloring of copper-red glaze, (9) 213*a*.
Kuroda, E., and Kato, K. Copper-red color in frit glaze (II), (9) 212*j*.
Kuroda, E., Morita, S., and Kato, K. Copper-red color in frit glaze (I), (9) 212*g*.
Kuroda, E., and Yamagata, K. Automatic control of oil burning for ceramics (III) pressure control, (4) 97*e*; (IV) control of atmosphere, (5) 120*a*. Kiln exhauster with pneumatic ejector, (2) 43*g*.
Kuroda, E., Yamagata, K., and Kato, S. Automatic control of oil burning for ceramics (II) temperature control, (2) 43*f*.
Kuroda, E., Yonemochi, O., and Noguchi, C. Automatic control of oil burning for ceramics (I), (2) 43*d*.
Kushnerik, N. I. See Kaminskii, V. K.
Kutscher, A. H. Dental preparation, P (9) 213*e*.
Kuzyak, V. A. Recuperative glass tank furnaces, (3) 57*g*. Sizes of regenerators for glass furnaces heated with natural gas, (8) 197*e*.
Kyriazi, J. A. Apparatus for fine crushing, P (8) 198*c*.

Labahn, O. Handbook for Cement Engineers, B (6) 150*d*.
Labino, D. Colored glass fibers, P (8) 189*a*. Glass composition, P (11) 255*f*. Method for making glass paper, P (5) 112*a*.
Laboratory Equipment Corp. Gas analysis crucible, P (8) 192*e*.
Lacroix, S. Pneumatic conveying method and system, P (5) 118*j*.
La Forge, L. H., Jr. See Sorg, H. E.
Lafuma, M. H. Shrinkage and cracking in cements, mortars, and concretes, (5) 107*h*.
Lahiri, D. See Chatterji, S.
Lahl, W., and Schwiete, H. E. Manufacture of calcium sulfate hemihydrate by the grinding-burning method, (5) 107*d*.
Lahr, H. R. Steel-ladle trials on fire-clay brick, (1) 9*j*.
Lahr, H. R., and Hardy, C. W. Influence of porosity on silica roof performance, (10) 233*b*.
Laine, L. H. See Carson, F. J.
Laist, F. Production of alumina, P (11) 269*a*.
Lajarte, S. de. Glass in the chemical industry, (3) 56*d*.
Lam, D. G., Jr. See Wachtman, J. B., Jr.
Lambert, M. C. Some practical aspects of X-ray spectrography, (7) 179*a*.
Lambert, R.-E. See Chan, A. D. H.
Lambertson, W. A. See Mangsen, G. E.
Landback, C. R. Improved kiln furniture life, (1) 8*b*.
Landel, A. See Rüdorff, W.
Landron, R., Jr. Low expansion ceramic body, P (5) 115*g*.
Landry, J. L., and Sandholdt, F. G. Electrostatic device, P (6) 131*f*.
Landt, E. Determination of the specific surface of fine powders, (5) 124*e*.
Lane, A. New windows in Canterbury Cathedral, (1) 2*a*.
Lang, A. R. Studies of individual dislocations in crystals by X-ray diffraction microradiography, (9) 221*c*.
Lang, D. T. Temperature sensing by pressurized liquid mixtures, P (11) 267*c*.
Lang, G. W. Device for troweling coatings upon moving [cement roofing] tile, P (11) 251*i*.
Lang, S. M. Properties of high-temperature ceramics and cermets—elasticity and density at room temperature, (8) 201*j*.
Lange, E. See Hübner, W. W. G.
Langrod, K. Sintering of uranium oxide in the range 1200° to 1300° C., (9) 211*h*.
Langseth, A. O. Artificially colored roofing granules, P (10) 231*i*.
Lanning, J. G. Resistor, P (4) 94*f*.
Lants, M. E. See Yashchuk, A. P.
Lanyi, B. See Csordás, I.
Lanz, R. L., Jr. See Muehleck, E.
Lapham, D. M. Structural and chemical variation in chromium chlorite, (4) 102*a*.
Lapin, V. V. See Solomin, N. V.
Larach, S., and Shrader, R. E. Electroluminescent devices, P (6) 143*f*. Multiband luminescence in boron nitride, (3) 65*c*.
Larin, A. P., Losev, S. A., and Sloushch, V. G. Determining the pressing force of toggle presses, (8) 195*j*.
La Rocque, A. P. Method of making cathode assemblies and products, P (4) 94*d*.
Larrabee, R. D. Spectral emissivity of tungsten, (4) 101*i*.
Larsen, R. P., and Vogel, R. C. Method of disintegrating refractory bodies, P (1) 10*a*.
Larson, G. H. Field substitution of fly ash for a portion of cement in air-entrained concrete, (2) 28*e*.
Larson, L. P. Mineral Facts and Problems (preprints): Gypsum, (7) 167*b*.
Larson, L. P., and Jensen, N. C. Gypsum, (6) 145*h*.
La Rue, A. D. Apparatus for glass-to-metal sealing, P (8) 188*j*.
Lassen, E. Royal Porcelain factory in Copenhagen, (3) 52*b*.
Lassner, E., and Scharf, R. EDTA titration of cobalt in cemented carbides, (10) 244*a*.
Last, J. T. Infrared-absorption studies on barium titanate and related materials, (10) 244*c*.
Latham, R. S. Philosophy and design—some pertinent questions, (5) 106*a*.
Latishev, F. A. See Mchedlov-Petrosyan, O. P.
Latysheva, E. J. See Vol'nov, I. I.
Laube, E. See Nowotny, H.
Lauck, A. G. Colored glass frit feeder, P (7) 158*c*. High speed article transfer apparatus, P (4) 86*e*.
Laughlin, Homer, China Co. Dinnerware making apparatus, P (1) 11*g*, P (3) 64*d*.
Laundy, B. J. See Connor, P.
Lauritzen, A. Carrousel kiln, (1) 15*j*.
Lauzau, W. R. Production of boron nitride, P (6) 140*h*.
Lavanchy, A. C. See Payne, R. E.
Laverdisse, E. Apparatus for vertically actuating the tools of machines for grinding and/or polishing glass, P (3) 58*a*.
Laves, F. See Wondratschek, H.
Lavoie Laboratories, Inc. Constant temperature chamber, in particular a crystal oven, P (5) 117*f*.
Lawendel, H. W. See Tarkan, S. E.
Lawhon, C. D. Device for indicating or controlling the atmosphere in a furnace, P (6) 145*d*.
Lawless, K. R., and Miller, G. T., Jr. Epitaxial relationships of cuprous oxide formed on copper single crystals immersed in an aqueous solution of copper sulfate, (9) 219*f*.
Lawrence, J. B. See Nieman, C. W.
Lawrence, W. G. See West, R. R.
Lawrie, D. C. Cation exchange capacities of clays, (7) 169*e*.
Lawson, A. W. See Jamieson, J. C.
Lawson, P. C. See Cochran, C. J.
Lawton, J. L. Indian ceramics and their historical development, (7) 182*c*.
Lawver, J. E. Feeding apparatus for analyzer, P (7) 166*a*.
Layer, E. H., and Olson, E. R. Apparatus for automatically coating ceramic rods with metal or metal alloy by thermal evaporation, P (2) 41*e*.
Lazar, M. E., and Brown, A. H. Spray-drying apparatus, P (4) 96*a*.
Leach, B. H. See Kingston, D. L.
Leach, G. New Materials, B (1) 24*i*.
Leaman, H. E. Rotor construction for fiber forming apparatus, P (8) 190*c*.
Le Baron, I. M. Electrostatic method and apparatus for beneficiating minerals, P (1) 18*d*.
Le Clerc, P. See Paymal, J.
LeCraw, R. C., and Spencer, E. G. Surface-independent spin-wave relaxation in ferromagnetic resonance of yttrium iron garnet, (1) 13*g*.
Lécrivain, L. Mechanical deformation of ceramic products at elevated temperatures, (5) 125*i*. Texture of refractories, (10) 234*c*.

Lederer, E. A. Getter for electron discharge device, P (2) 40*f*. See Selby, E. E., Jr.
Lee, A. H. Proper metal preparation prior to porcelain enameling, (7) 155*h*.
Lee, D. E. Andradite-spessartite garnet from Pajsberg, Sweden, (3) 72*j*.
Lee, H. C. See Eells, H. P., Jr.
Lee, S. E. Two basement excavations, a twelfth century bargain, and a gift, (1) 2*e*.
Leeds & Northrup Co. Radiation measurement of nonopaque bodies, P (4) 87*h*.
Leeman, J. N. J. Apparatus for separating mixtures into particles of low specific gravity and particles of high specific gravity, P (5) 118*d*.
Lefferts, W. G. What you should know about modern cement plant drives (I, II), (3) 55*d*.
Lefkowitz, I. Electrical component of ceramic combined with resistor applied to the surface thereof, P (10) 238*h*.
Leflet, H. A., Jr. See Carson, F. J.
Lefrancois, P. A. See Burton, W. P.
Leftwich, R. F. Sintering apparatus, P (1) 16*i*.
Legendre, A., and Cornuault, P. Process and apparatus for producing pure graphite, P (10) 235*h*.
Legrand, C., and Nicolas, J. Determination of the quartz content of clays by X rays, (5) 124*d*.
Legvold, S. See Grimes, D. M.
Lehberg, H. Fayence-Manufaktur Stockelsdorf (Lübeck) and its decorative stoves, (11) 250*e*.
Lehmann, H., and Dutz, H. Infrared spectrographic determination of the mineral content of raw materials and products of the brick and mineral industries, (3) 68*e*. Problem of plasticity, (6) 148*e*.
Lehmann, H., and Mitusch, H. Refractory Concrete from Fused Alumina Cement, B (6) 152*i*.
Lehmann, H., and Ohnemüller, W. Frost testing by means of physical measurements, (5) 112*i*.
Lehmann, H.-A., and Erzberger, P. Alkali zirconates, (5) 123*f*.
Lehmann, Hein, & Co., A.G. Methods and apparatus for crushing materials, P (2) 45*i*.
Lehmann, W. Method of preparing three-color electroluminescent phosphor, P (9) 214*g*.
Leibson, J. S. See Thuener, E. E.
Leighton, H. W. Apparatus for uniformly heating noncircular outlines, P (2) 32*a*.
Leithiser, G. L., Jr. Continuous rotary pressure filter and method and means of controlled separation of solids and liquid from slurry, P (4) 95*b*.
Leitner, A. Passage of heat through the brickwork of the tunnel kiln car top, (6) 145*c*.
Leitz, Ernst, G.m.b.H. Electronic microscope for top illumination of surfaces, P (7) 166*a*. Hardness-testing device, P (5) 119*e*. Optical glass, P (2) 34*d*.
Lell, E. Synthesized impurity centers in fused silica, (9) 208*j*.
Lemish, J. See Bisque, R. E.
Lemmens, H. J., Jansen, M. J., Haayman, P. W., Knippenberg, W. F., and Linden, P. C. van der. Thermionic cathode, P (7) 164*f*.
Lemmerman, H. H. P., and Crocker, W. S. Thermocouple temperature monitor, P (9) 216*j*.
Lemmers, E., Shaw, B., and Salo, J. Tubular lamp envelopes, P (4) 87*j*.
Leon, M. See Campbell, W. J.
Lepinskikh, B. M. See Esin, O. A.
Lerch, W., Gibson, W. E., Hansen, W. C., Mather, B., and Tremper, B. Chemical reactions of aggregates in concrete—identification of deleteriously reactive aggregates and recommended practices for their use in concrete, (4) 82*j*.
Leschot, A. See Herzmark, N.
Letort, Y. Flow of aluminous refractory products at high temperatures, (3) 60*i*.
Leuenberger, H. See Erasmus, H. de W.
Leufkens, A. G. Sanitary fixtures and installations in Europe (I,II), (6) 141*h*.
Leutner, K. Araldite, a resin for ceramic plaster modeling, (5) 114*j*.
Levand, V. A. Electric lamp gas filling and sealing method and apparatus, P (2) 33*h*. Pinch seal apparatus, P (5) 112*d*.
Levchuk, N. A. See Mchedlov-Petrosyan, O. P.
Levengood, W. C., and Vong, T. S. Dislocation type defects in glass, (5) 110*a*.
Levin, B. E. Calculation of the phase composition of ferrites, (1) 12*b*.
Levin, E. M. See Roth, R. S.
Levin, E. M., and McMurdie, H. F. Phase Diagrams for Ceramists (II), B (1) 24*j*.
Levine, B. S. U.S.S.R. Literature on Air Pollution and Related Occupational Diseases: Vol. I, B (7) 184*a*.
Levintovich, E. V., Lyulichev, A. N., Margulis, O. M., and Shakhtin, D. M. Methods of introducing the radioactive indicator ^{45}Ca into refractory bodies, (2) 36*b*.
Levitt, C. M. See Heerschap, M.
Levkov, B. Determination of temperature in wall tile biscuit firing tunnel kiln by shrinkage measurement of fired product, (10) 236*a*. Effect of ignition loss in stoneware on quality of wall tile, (7) 162*e*.
Levy, A. S. See Priest, D. K.
Levy, P. W. Kinetics of gamma-ray induced coloring of glass, (9) 207*g*. See Truell, R.
Lewis, A. E. See Witucki, R. M.
Lewis, B. See Kariovitz, B.
Lewis, D. A., and Copenhagen, W. J. Corrosion of reinforcing steel in concrete in marine atmospheres, (9) 204*b*.
Lewis, D. R., Whitaker, T. N., and Chapman, C. W. Thermoluminescence of rocks and minerals (I) apparatus for quantitative measurement, (7) 181*f*.
Lewis, E. D. Pigment production, P (1) 18*i*.
Lewis, K. B., and Schleicher, W. F. (reviser). Grinding Wheel, B (5) 130*e*.
Lewis, R. E. See Appel, A. V.; Hosking, J. S.
Lewis, T. W. See Newell, W. J.
Lewis Engineering Co. Pyrometer circuit, P (8) 198*b*.
Leyonmark, G. F. See Famely, M.
Li, Y.-Y. Superexchange interactions and magnetic lattices of the rhombohedral sesquioxides of the transition elements and their solid solutions, (2) 48*h*.
Libbey-Owens-Ford Glass Co. Apparatus for bending glass sheets, P (6) 135*i*. Apparatus for controlling the heating of glass sheets, P (6) 135*i*. Apparatus for polishing glass sheets, P (6) 135*j*. Apparatus for pressing curved glass laminations, P (3) 57*j*. Apparatus for producing bent sheets, P (9) 209*a*. Apparatus for producing sheet glass, P (11) 255*f*. Apparatus for washing curved sheets, P (6) 136*b*. Automatic glass cutting machine, P (11) 255*i*. Edge treating apparatus, P (7) 158*b*. Electrically conducting glass and method for producing, P (5) 111*h*. Electrically conductive windshield, P (11) 255*c*. Electro-optical computing device for surface areas [of glass sheets], P (4) 86*i*. Glass bending apparatus, P (7) 158*c*. Glass bending mold, P (10) 230*g*. Glass composition, P (3) 58*i*. Light transmissive electrically conducting article, P (11) 256*c*. Metalizing apparatus, P (6) 136*c*. Method and apparatus for bending glass sheets, P (3) 58*i*. Method of and apparatus for measuring the thickness of sheet materials, P (2) 33*i*. Method and apparatus for surfacing glass sheets, P (8) 189*j*. Method of bending and cutting glass sheets, P (2) 34*c*, P (8) 190*a*. Method of changing glass composition, P (2) 34*e*. Method of fabricating multiple glass sheet glazing units, P (6) 136*e*. Method of producing pattern-cut bent glass sheets, P (1) 6*g*. Method of testing electrically conducting films, P (10) 231*b*. Tempering of sheet material, P (11) 257*a*. Template cutting apparatus for bent sheets of glass, etc., P (8) 190*d*. Testing electrically conductive articles, P (11) 257*b*. Transparent resistance heated panel and method of producing, P (1) 6*j*.
Licentia Patent-Verwaltungs-G.m.b.H. Permanent magnet material, P (7) 164*b*.
Lidgard, E. J. Container for a plurality of sheets of glass, etc., P (5) 111*h*.
Lieber, S. U. Probe for a thickness testing gauge, P (8) 197*b*.
Lieberman, A. See Appel, A. V.
Liehn, W. Suggestions for the automation of annealing furnaces in the glass industry, (3) 57*a*.
Liger, C. See Alviset, L.
Lin, S. T. Some new magnetic phenomena of hematite single crystal, (1) 13*e*.
Linda, F. R. See Jones, L. M.
Lindberg, M. L. Beryllium content of roscherite from the Sapucaia pegmatite mine, Minas Gerais, Brazil, and from other localities, (3) 73*c*.
Lindblad, F. W. Cup-shaped diamond grinding wheel, P (10) 225*f*.
Linden, P. C. van der. See Lemmens, H. J.
Lindenberg, W. Material level indicating apparatus, P (11) 266*b*.
Lindenthal, J. W. See Beals, M. D.; Shevlin, T. S.
Lindley, G. Apparatus for routine analysis (I) analytical applications of the Kohlrausch flask, (9) 218*i*.
Lindström, G. B., and Mårtensson, M. Preliminary investigations by means of gas adsorption on sintered porous membranes for the separation of uranium isotopes by gaseous diffusion, (10) 233*g*.
Lineweaver, J. L. See Todd, B. J.
Lingard, C. A. Apparatus for detecting temperature changes, P (4) 96*j*.
Link-Belt Co. Vibrating screens, P (1) 14*i*.
Linnell, R. H. See Harris, W. M.
Linseis, M. New thermobalance, (8) 196*j*.
Linzey, J. T. Notes on industrial application of the pyroplastic index method, P (2) 34*i*.
Liokumovich, L. M. Firing brick with water injection into the high-temperature zone, (7) 159*i*.
Lippincott, E. R. See Weir, C. E.
Lippmann, F. Apparatus for differential thermal analysis, (6) 144*f*.
Lisovskii, D. V., and Naumov, N. V. Pressing magnesite arch brick with orifices, (6) 139*c*.
Lister, L., and Brace, A. W. Enameling aluminum, (7) 155*f*.
Lithium Corp. of America, Inc. Preparation of lithium nitride, P (5) 121*j*.
Litton Industries, Inc. Nucleonic X-ray apparatus, P (7) 182*b*.
Liu, H. Method for metalizing nonconductive material, P (5) 117*j*.
Liverani, G. Book of color recipes of the 18th century at Faenza, (3) 52*b*. Porcelains from excavations in Capodimonte, (5) 106*b*.
Livey, D. T., and Murray, P. Effect of heat-treatment on the sintering of "active" ceramic oxide powders, (8) 200*j*.
Livey, D. T., Towers, H., Bell, H. B., and Hay, R. Study of the constitution of liquid silicate slags, (1) 9*f*.
Livson, Z. A., and Kozlova, E. I. Laboratory tests on the granulation of finely ground mixtures of magnesite open-hearth fettling powders, (2) 35*g*.
Ljunggren, P. Determination of mineralogical transformations of gypsum by differential thermal analysis, (5) 106*e*.
Lloyd, E. C., Hutton, U. O., and Johnson, D. P. Compact multianvil wedge-type high pressure apparatus, (7) 170*h*.
Lobole, M. See Poutroic, M. de la.
Lockers (Engineers), Ltd. Feeding of granular materials capable of flowing, P (8) 196*a*.
Lodge, J. R. See Miller, R. M.
Lodge, J. R., and Fehner, R. H. Method of making artificially colored granules and product thereof, P (7) 159*j*.
Lodochkin, P. A. See Solomin, N. V.
Loeb, A. L. See Goodenough, J. B.
Loebner, E. E. Thermoelectric power, electrical resistance, and crystalline structure of carbons, (3) 78*f*.
Loechl, C. J. Drying gypsum wallboard, P (4) 83*e*.
Löffler, W. See Hübscher, M.
Löffler, W., and Beier, E. Porcelain glazes, (6) 141*e*.
Loeuille, E. Physical methods of chemical analysis, (5) 126*h*.
Löwenstern, E., Hasenäcker, E., and Wirtz, H. Bonded-wall structure for coke-oven chambers, etc., P (9) 217*f*.
L.O.F. Glass Fibers Co. Colored glass fibers, P (8) 189*a*. Continuous [strand] winding apparatus, P (8) 189*c*. Glass composition, P (11) 255*f*. Method for making glass paper, P (5) 112*a*.
Logan, J. R. Ultrasonic cleaning method and apparatus, P (10) 239*j*.
Logan, R. A., and Peters, A. J. Diffusion of oxygen in silicon, (10) 243*h*.
Logiudice, J. S. See Franel, J.
Lohman, H. W. See Penberthy, H. L.
Lohre, W. Determination of pore size distribution in refractories, (8) 191*d*.
Long, B. Manufacture of glass, P (2) 33*f*. Method and apparatus for continuously drawing a glass sheet, P (7) 159*b*.
Long, D. M. Method and apparatus for forming fibrous glass, P (8) 189*h*.
Long, G. See Foster, L. M.
Long, J. V., and Furth, J. V. Cermet composition and method of coating therewith, P (2) 30*e*.
Long, L. L., and Trout, R. G. Method for forming and treating fibers, P (4) 87*h*.
Longuet, P. See Courtault, B.
Longuyon, I. G. de. Rapid determination of the alumina content of clays and grog with Komplexon, (7) 177*j*.
Lonsdale, K. See Kasper, J. S.
Loomis, R. F. Conveying apparatus, P (4) 99*i*.
López González, J. de D., and Cano-Ruiz, J. Surface area changes of a vermiculite by acid and thermal treatment, B (9) 223*i*.
Lorentz, G. M. B. See Dietz, K.
Lorenz, G. See Fischer, W. A.
Lorig, E. T. Automatic self-centering pulleys for belt conveyers, P (5) 118*e*.
Losev, S. A. See Larin, A. P.
Lott, P. F., and Cheng, K. L. Improved end point by addition of polyvinyl alcohol in the EDTA titration of calcium with Calcon as indicator, (3) 75*g*.
Love, F. E., Lyons, L. R., and Priscu, J. C. Beneficiation of titaniferous iron ores, P (8) 198*d*.
Lovejoy, D. R. Absorbing filters and high-temperature optical pyrometry, (11) 266*f*.
Lovell, G. H. B. Device for firing electric furnaces automatically, (6) 145*b*.
Lovell, H. L. See Charmbury, H. B.
Lovering, J. F. Origin of tektites (II) high temperature fusion of possible parent materials for tektites, (10) 228*f*.
Lowitzsch, K. See Parrish, W.
Lubers, W. Porcelain enamel coatings for small parts, (4) 83*i*.
Lucks, C. F., Deem, H. W., and Wood, W. D. Thermal properties of six glasses and two graphites, (8) 188*f*.
Ludwig, P. F. Some little-known reactions of silica and their practical importance, (2) 38*d*.
Luhman, W. J. See Gorum, A. E.
Lukens Steel Co. Prevention of irregular scaling of ferrous metals, P (10) 227*c*.
Lunghard, R. Merits of porcelain tableware styles, (3) 52*f*.
Lungo, A. See Curran, D. R.
Lupato, G., Mecarelli, E., Novacic, L., and Piliego, M. Production and physicochemical testing of containers of high resistance to water solubility for pharmaceutical use, (1) 5*b*.
Lux, J. F. See West, R. R.
Luzar, R. H. See Shoot, L. E.
Lykken, H. G. Aerodynamic classifier, P (4) 98*i*.
Lykken, H. G., and Lykken, W. H. Integrated dry material reducing and classifying means, P (11) 265*g*. Pneumatic classifier system, P (5) 121*g*. Precision grinder with forced circulation classifier, P (8) 199*d*.
Lykken, W. H. See Lykken, H. G.
Lyle, A. K. Apparatus for and method of making glass, P (1) 6*e*.
Lynch, E. D., Handwerk, J. H., and Hoenig, C. L. Oxidation studies of urania-thoria solid solutions, (11) 259*a*.
Lynch, R. T. Method of manufacturing sintered cathode, P (1) 13*g*.
Lynch Corp. Mold holder and finish ring holder locking means [for a glassware forming machine], P (10) 231*c*. Timer for glassware forming machines, etc., P (7) 159*d*.
Lyon, R. J. P. See Tuddenham, W. M.
Lyon, Inc. Apparatus for polishing and buffing sink ribs, P (8) 187*b*.
Lyons, L. R. See Love, F. E.
Lyons, R. W. See Proett, R. E.
Lyons, S. C. Ceramic substance and method of making, P (7) 167*h*. Method of blunging clay, P (4) 100*d*. Method of handling and conditioning papermaking clay for use, P (6) 146*d*. Method of treating kaolinitic clay, P (2) 45*d*.

Lytle, F. W., and Heady, H. H. X-ray emission spectrographic analysis of high-purity rare earths, (7) 181*f*.

Lytle, W. O. Method of producing transparent electroconductive articles, P (3) 66*e*. See Marini, H. R.

Lyulichev, A. N. See Levintovich, E. V.

Ma, J. L. Prevention of irregular scaling of ferrous metals, P (10) 227*c*.

MacAdam, D. L. Small-field chromaticity discrimination, (4) 84*a*.

McAllister, R. W. High-calcium lime refractories and method for making, P (6) 140*c*. Refractory lime, P (11) 252*d*.

MacArthur, J. G. Process and compositions for improving clay products, P (1) 7*h*.

McAtee, J. L., Jr. Inorganic-organic cation exchange on montmorillonite, (7) 174*b*.

McAtee, J. L., Jr., and Concilio, C. B. Effect of heat on an organomontmorillonite complex, (7) 172*d*.

McAuley, J. W., Griss, C. H., and McCown, W. E. Surface cleaning apparatus and method, P (3) 59*d*.

McAuley, J. W., and Karlene, E. L. Method and apparatus for surfacing glass sheets, P (8) 180*j*.

McBride, B. V. See Trigg, W. M.

McBride, J. P. Method of increasing the dispersibility of slurry particles, P (5) 129*d*.

McCabe, E. J. See Grieger, P. W.

McCallum, N. H., Jr. See Greene, J. F.

McCarthy, J. A. See Priebe, E. L.

McCartney, E. R., and Alexander, A. E. Effect of additives on the process of crystallization (I) crystallization of calcium sulfate, (7) 172*i*.

McClelland, J. D. See Rasor, N. S.

McClelland, J. D., and Zehms, E. H. Thermal conductivity of magnesia from 1030° to 1880° C., (2) 48*f*.

McClimont, W., Richardson, H. M., and Taylor, B. Boiler refractories—operating temperatures and recent developments in construction, (3) 60*e*.

McClure, J. W. Diamagnetism of graphite, (2) 39*g*.

McCollum, L. S., and Gindoff, S. Fibrous agglomerate, P (2) 37*d*.

McConkey, E. A. G. See Barker, R. S.

McConnell, D., and Murdoch, J. Crystal chemistry of scawtite, (3) 73*d*.

McConnell, G. T. Temperature measuring and indicating means, P (5) 119*h*.

McConnell, J. D. M. Small-scale cyclone micronizer, (3) 68*g*.

McCormick, J. M. Means for cooling glassforming molds, P (2) 33*g*.

McCown, W. E. See McAuley, J. W.

McCullough, J. A., and Williams, P. D. Ceramic type electron tube, P (4) 93*e*.

McDavitt, M., and Vincent, H. B. Banded hollow glass structural unit, P (10) 230*b*.

McDowall, I. C. Testing clay strength—a review of the influence of preparation and testing on the modulus of rupture of unfired clay, (11) 268*j*. See Adcock, D. S.

McDuffee, J. K. Method and apparatus for sealing metal to glass, P (2) 34*a*.

McDuffie, G. E., Jr., Cunningham, J. R., Jr., and Anderson, E. E. Initial permeability characteristics of mixed yttrium-gadolinium iron garnets, (10) 237*j*.

McElroy, R. H. Apparatus for compacting granular materials, P (4) 95*j*.

Macer, W. E. "Across-the-line" operation of SiC heating elements, (4) 97*e*. Silicon carbide heating elements and their application (I–IV), (2) 44*a*.

MacEwan, D. M. C. Fourier transform methods for studying scattering from lamellar systems (I) direct method for analyzing interstratified mixtures, (7) 173*g*. See Ruiz Amil, A.

MacEwan, J. U. See Archambault, M.

McGarry, F. J. See Bikerman, J. J.

Macgeorge, W. D. Apparatus for effecting automatic batching of composite mixtures, P (8) 196*d*.

McGinn, J. H. Ballistic particle size discriminator, P (8) 196*d*.

McGinnis, W. J. See Gloss, G. H.

McGinnis, W. J., and Gloss, G. H. Production of potassium bicarbonate, P (2) 45*i*.

McGraw-Edison Co. Apparatus for forming plastic clay bodies, P (7) 164*j*. Method and apparatus for the manufacture of ceramic ware, P (1) 14*f*.

McGuire, J. C. Method for soldering normally nonsolderable articles, P (4) 94*g*.

McGuire, T. R., Scott, E. J., and Grannis, F. H Antiferromagnetism in a Cr_2O_3 crystal, (11) 262*i*.

Machler, R. C., and Fastie, W. G. Radiation measurement of nonopaque bodies, P (4) 87*h*.

McIlvaine, R. L., and Granath, A. G. Multiple stage mixing apparatus [dry pan], P (10) 239*g*.

McIntosh, J. J., and Cox, J. E. Colorimetric determination of boron in porcelain enamel frits, (4) 83*h*.

McKee, Arthur G., & Co. Method and apparatus for automatically measuring and controlling moisture in a sinter mix or the like, P (8) 196*g*.

McKee, J. M. See Jaffe, H.

McKelvey, H. E. See Davidson, C. R., Jr.

McKelvey, H. E., and Doehlert, D. H. Bending glass, P (2) 32*c*.

McKenna, Q. H. See Stern, D. R.

Mackenzie, J. Laboratory test for the assessment of ladle brick, (1) 8*c*. See Greaves, E. I.

MacKenzie, J. C. High temperature water resistant lubricating greases, P (1) 18*g*.

Mackenzie, J. D. Structure of glassforming halides (I) liquid beryllium fluoride, (11) 254*a*. See Bockris, J. O'M.

Mackenzie, J. D., and White, J. L. Si—O—Si angle and the structure of vitreous silica, (4) 101*i*.

Mackenzie, R. C., and Bishui, B. M. Montmorillonite differential thermal curve (II) effect of exchangeable cations on the dehydroxylation of normal montmorillonite, (7) 175*c*.

MacKenzie, W. S. See Smith, J. V.

McLanahan & Stone Corp. Triple roll crusher, P (3) 72*f*.

McLaren, J. R., and Richardson, H. M. Action of vanadium pentoxide on aluminosilicate refractories, (11) 258*b*.

McLaughlin, J. E., and Allgeyer, G. H. Apparatus for guiding mold charges of glass into molds, P (4) 86*a*.

MacLeod, L. R. Gyratory crusher, P (3) 71*h*.

McMackin, J. See Miles, G. G.

MacMaster, H. D., Bauer, H. E., and Guthrie, S. A. Method of making abrasive articles, P (10) 225*f*.

McMaster, R. C. (editor). Nondestructive Testing Handbook: Vols. I and II, B (10) 247*c*.

McMullen, J. C. Spheroidal refractory material and method of making, P (7) 162*a*.

McMurdie, H. F. See Levin, E. M.

McNally, F. A. Spectrometer and means for shifting its spectral radiations relative to the focal plane, P (10) 246*d*.

McNaught, R. P. Metallic ore collecting member with a plurality of magnetized surface areas, P (5) 121*i*. Ore-collecting member for removing magnetizable particles from ore, P (7) 167*f*.

McNeill, W., and Jonassen, H. B. Reconstituted synthetic mica, P (9) 218*f*.

MacPherson, A. R. See Weston, D.

McQueen, I. S. See Rolfe, B. N.

McQuiston, J. H. Natural gas firing of a continuous glass furnace, (7) 157*b*.

McTaggart, F. K. Sulfides, selenides, and tellurides of titanium, zirconium, hafnium, and thorium (III) electrical properties, (7) 180*j*. See Bear, J.

McTaggart, F. K., and Moore, A. Sulfides, selenides, and tellurides of titanium, zirconium, hafnium, and thorium (IV) lubrication properties of the graphitic chalcogenides, (7) 180*j*.

McTaggart, F. K., and Wadsley, A. D. Sulfides, selenides, and tellurides of titanium, zirconium, hafnium, and thorium (I) preparation and characterization, (7) 180*g*.

Macura, H. Graphitizing residues of the thermal decomposition of carbonaceous materials, P (11) 260*j*.

McVay, T. N. See Handwerk, J. H.; Struxness, E. G.

McVey, H. J. Spray phosphoric acid pickling, (1) 4*a*.

McWhorter, W. E. Shipping container for fragile irregularly shaped articles, P (6) 137*c*.

McWilliam, J. M., and Gilmour, J. McM. Experiments with firebrick batch for dry-pressing, (1) 8*i*.

Maddocks, W. R. See Bradbury, B. T.; Williams, D. J.

Maeda, T. See Isomura, M.

Maekawa, A. See Soda, T.

Märker, R. Enamel as a building material (I, II), (6) 133*i*. Enamel cement for filling holes in the metal casting, (11) 252*h*.

Maetz, H. Recent developments in the construction and operation of pot furnaces, (5) 110*i*.

Magidovich, V. I. See Meltina, V. A.

Magnaflux Corp. Sonic thickness measuring apparatus, P (6) 144*j*.

Magnet Cove Barium Corp. Beneficiated clay compositions, P (11) 268*d*.

Magni-Power Co. Magnetic separator, P (4) 95*g*.

Maguire, E. A. See Blum, S. L.

Mahoney, T. J. Silicones for surface protection, (7) 157*e*.

Maier, K. H. Aerosol filtration by use of membrane filters, (5) 123*e*.

Majac, Inc. Impact mill, P (8) 198*g*. Jet pulverizer, P (8) 196*e*. Particle mill system, P (5) 121*e*.

Makarychev, A. R. Service of forsterite, Dinas, and high-alumina fire-clay brick in open-hearth checkers, (9) 211*d*. Service of refractories in the lining of steel-pouring ladles, (2) 36*g*.

Maki, T., and Tashiro, M. Change of the fluidity of oxide powders during heating, (7) 169*f*.

Makovic, F. J., Jr., and Goralske, A. W. Apparatus for pressing curved glass laminations, P (3) 57*j*.

Mal'chenko, V. I. Automated setting of refractories [on tunnel kiln cars], (8) 195*j*.

Malinowski, R. F., and Vodicka, V. Coated electric lamp, P (11) 255*j*.

Malizzewski, A. V. Glass in the nuclear age, (9) 207*c*.

Malkin, F. See Dinsdale, A.

Malley, T. J., Pennell, J. D., and Schindler, H. D. Preparation of desulfurization catalysts, P (5) 121*h*.

Mallory-Sharon Metals Corp. Method of purifying zirconium tetrahalide, P (4) 100*c*.

Malm, R. N., and Vodicka, V. Method of manufacturing electric lamps, etc., P (11) 256*c*.

Malmberg, P. R. See Sun, K.-H.

Malmqvist, J. D., and Thomaeus, I. G. R. Apparatus for ore separation, P (7) 167*f*.

Malobicky, R. L. See Davidson, C. R., Jr.

Maloy, A. L., and Boggs, F. L. Automatic liquid feeding system in a flame spectrophotometer, P (11) 273*b*.

Mamykin, P. S. See Ogarkov, A. F.

Mamykin, P. S., and D'yachkov, P. N. Arkalyk-skil clays and their use, (1) 17*c*.

Manche, H. Concrete curing with steam at atmospheric pressure, (5) 106*j*.

Mandal, S. S. See Dhar, R. N.

Mandal, S. S., and Roy, S. B. Classification of Indian mica on the basis of power factor, (3) 70*b*. Electrical properties of Indian mica—parallel loss, (3) 70*e*. Rapid classification of mica on the basis of electrical properties, (10) 237*e*.

Mandarino, J. A. Absorption and pleochroism—two much-neglected optical properties of crystals, (3) 72*g*.

Mandelkern, L. See Martin, G. M.

Mandeville, C. E. See Albrecht, H. O.

Manfredi, R. E. See De Santis, V. J.

Mangsen, G. E., Lambertson, W. A., and Best, B. Hot pressing of aluminum oxide, (3) 75*c*.

Mankie, G. E. See Wagner, W.

Mann, I. Bonded abrasives, (9) 203*e*.

Mann, W. Influence of organic binders on ceramic bodies—manufacture of porous materials, (9) 215*g*.

Manolescu, O., Georgescu, N., and Givulescu, I. Use of fly ash in structural brick and blocks (I), (5) 107*f*.

Manolescu, O., and Manolescu, T. Use of fly ash in structural brick and blocks (II), (5) 107*f*.

Manolescu, T. See Manolescu, O.

Mans, L. See Foust, A. S.

Mansberg, H. P. See Berkley, C.

Mansfield Sanitary Pottery Co. Manufacture of ceramic articles, P (10) 227*c*.

Mansini, L. See Comensoli, I.

Månsson, B. G. E. See Gustavsson, K. A. G.

Mantell, C. L. (editor). Engineering Materials Handbook, B (1) 23*f*.

Manvelyan, M. G., Melik-Ankhazaryan, A. F., Kostanyan, K. A., and Nalchadzhyan, S. O. Use of graphite electrodes in electric glass-melting furnaces, (6) 135*c*.

Marants, A. G., and Kamenchik, A. E. Trial use of fused-cast zircon-mullite refractories in the caissons of an open-hearth furnace, (9) 212*a*.

Marblehead Lime Co. Apparatus for cooling particles, P (1) 16*a*.

Marboe, E. C. See Weyl, W. A.

Marburg, E. Sectional hot top, P (2) 37*e*. Slotted hot top, P (4) 90*c*.

Marcec, E. A. Hot top, P (4) 89*j*.

Marcus, L. See Salmon, O. N.

Marden, J. W., Wroughton, D. M., and Baker, R. F. Ultra-high-temperature furnace, P (4) 98*c*.

Mare, E. Adjustable sieves, P (3) 67*h*.

Marengo, M. See Nossardi, G.

Margrave, J. L. See Wang, K.-C.

Margulis, O. M. See Levintovich, E. V.

Margulis, O. M., and Karaulov, A. G. Use of the method of "tagged atoms" for establishing the effect of refractories in contaminating steel with nonmetallic inclusions, (6) 140*f*.

Mariner, P. F., and Kinnear, J. A. C. Lens, mirror, etc., for high frequency radio aerials, P (2) 40*h*.

Marini, H. R. Method and apparatus for glass chip removal, P (4) 87*b*.

Marini, H. R., Lytle, W. O., Saunders, A. E., and Wagner, W. E. Treating glass sheets, P (10) 231*b*.

Markham, W. G. See Gama, A. R.

Marks, S. T. Method for constructing a barium titanate blast velocity gauge, P (4) 93*j*.

Marland One-Way Clutch Co. Rotary kiln drive mechanism, P (4) 98*b*.

Maroney, D. M. See Brindley, G. W.

Marot, P. Process of separating mixtures of particles, P (8) 199*d*.

Marriner, R. S. Practical realization of the HV and HR scales of hardness, (2) 43*a*.

Marriott, E. See Gilbert, W.

Marsden, C. P., Jr., and Brewer, F. H. Ceramic wafer electronic tube, P (4) 93*f*.

Marshall, D. M. Combination oil and gas burner, P (8) 198*a*.

Marshall, D. W., and Scott, J. J. Process for the concentration of zirconia, P (7) 167*i*.

Marshall, J. F., Pomerantz, M. A., and Shatas, R. A. Temperature dependence of electron-bombardment-induced conductivity in MgO, (4) 92*h*.

Marshall, T. C. See Gerson, R.

Martens, H. E., and Kotlensky, W. V. Tensile behavior of pyrolytic graphite at 2750°C., (10) 241*d*.

Mårtensson, M. See Lindström, G. B.

Martin, A. E. Double beam spectrometers. P (9) 222*d*.

Martin, F. W. Cathode-ray tube manufacture, P (7) 158*b*.

Martin, G. M., and Mandelkern, L. Glass formation in polymers (II) system rubber–sulfur, (7) 173*a*.

Martin, J. Manufacture of ferric oxide, P (9) 218*g*. Manufacture of iron oxides, P (10) 241*i*. See Downs, C. D.

Martin, J. V. See Everest, D. A.

Martin, P. T. See Touvay, R.

Martin, P. W., and Pringle, R. W. X-ray analysis of geological formations, P (6) 149*e*.

Martin, R. T. Clay-carbonate-soluble salt interaction during differential thermal analysis, (3) 73*j*. Water-vapor sorption on kaolinite: hysteresis, B (9) 223*c*.

Martin, S. T. Semiconductor mount and method P (8) 195*g*. See Spracklen, S. B.

Martin, W. C., Jr. Magnetic separator, P (4) 95*g*.
Martin Co. Laminated thermal insulation, P (7) 155*g*.
Martinet, J. R. Furnace structures, P (10) 240*j*.
Martinsen, R. E. Tapered roller bearings in kiln car design, (3) 69*e*.
Martuscello, P. J., and Stermer, M. G. Sheet glass manufacture, P (1) 6*i*.
Marzocchi, A. See Park, J. K.
Marzocchi, A., and Caroselli, R. F. Treated glass fibers and compositions for use in same, P (10) 231*c*.
Mase, S. Electronic structure and diamagnetism of graphite, (3) 64*h*.
Mash, D. H. Electroluminescent devices, P (5) 117*g*.
Maskin AB Plavia. Process and an apparatus for separating solids from suspensions of solids in fluids, P (4) 95*f*.
Mason, B. Chemical composition of tektites, (8) 199*i*.
Mason, E. A., and Cobb, C. M. Method for producing thorium tetrachloride, P (7) 167*d*. Method for producing titanium tetrachloride, P (7) 167*d*.
Mason, R. D., Jr. See Block, S.
Mason, W. P. Electrostrictive ceramics comprising a principal component of barium titanate, P (3) 65*f*. Preaging of electrostrictive ceramics, P (10) 238*g*. See Bömmel, H. E.
Massazza, F. System SrO–Al_2O_3, (11) 272*a*. Transformations and structural changes in a silicoaluminous refractory used in a limekiln, (8) 192*h*.
Massimilla, L., and Bracale, S. Study on the resistance of a silicoaluminous refractory to sudden cooling, (3) 61*g*.
Masson, A. Stone dressing and planing machines, P (5) 122*i*.
Masters, J. I., and Roberts, R. W., Jr. Measurement of ferromagnetic relaxation by a modulation technique, (1) 12*h*.
Masuda, Y. See Nakazawa, Y.
Matcovich, T. J., and Kriessman, C. J. Remagnetization experiments in $Mn_{1.42}Fe_{1.58}O_4$, (1) 13*b*.
Mather, B. See Lerch, W.
Mather, B., Mielenz, R. C., and Swenson, E. G. Alkali-aggregate reaction in concrete (II) laboratory tests to show potential reactivity of aggregates, (4) 82*i*.
Mathers, J. E., Potter, G. V., and Shearer, N. W. Determination of calcium in wolframite ore, (3) 73*i*.
Mathews, J. F. See Ubbelohde, A. R.
Mathieson, A. McL. Mg-vermiculite—a refinement and re-examination of the crystal structure of the 14.36 a.u. phase, (3) 76*c*.
Mathieu, F. See Bollack, R.
Mathieu, M.-V. See Imelik, B.
Matocha, C. K. See Tingle, W. H.
Matouschek, F. Determination of magnesia, (11) 270*d*.
Matoush, W. R. Method for manufacture of aluminum fluoride, P (6) 146*d*.
Matsukawa, T. Process for producing composite powder of silver and cadmium oxide, P (1) 14*b*.
Matsumoto, H., and Yamauchi, S. Use of Hyswing ball mill, (1) 14*f*.
Matsumoto, Y., and Nishimura, T. High-alkali porcelain (I, II), (2) 38*ad*.
Matsuo, S. See Nakamura, M.
Matsuoka, T. See Ohno, Y.
Matsushita, Y. See Sakagami, R.
Matthews, S. Ceramic research and facilities at Mines Branch, Ottawa, (7) 182*c*.
Matthias, B. T. Ferroelectric devices, P (1) 13*c*.
Mattiat, O. E. Piezoelectric ceramic resonators, P (11) 264*b*.
Mattison, R. J., Jr. See Peterson, C. J.
Mattson, D. F. See Atkinson, F. M.
Mattuck, R. D., and Shandberg, M. W. P. Optical method for determining the *c* axis of ruby boules, (7) 176*g*.
Matveev, I. K. Study of surface phenomena in fired porcelain bodies, (9) 213*b*.
Matveev, M. A. See Ginzburg, D. B.
Matveev, M. A., Kolfman, I. S., and Grechanik, L. A. Vibration grinding of sand and its use for melting borosilicate glass, (6) 135*f*.
Matveev, M. A., and Rabukhin, A. I. Wear resistance of nonmetallic grinding bodies in the vibrogrinding of glass-ceramic raw materials, (6) 144*d*.
Maude, A. D. Theoretical evaluation of capillary viscometers for the measurement of the viscosity of suspensions of spheres, (2) 48*f*.
Maude, A. D., and Whitmore, R. L. Generalized theory of sedimentation, (9) 220*c*.
Mauritz, K. Devitrification of cast stones, P (9) 222*b*.
Mauthner, T. See Eisenberg, D. J.
Max-Planck-Institut für Eisenforschung. Thermocouples, P (4) 97*c*.
Maxey, W. C. Method of and apparatus for continuously processing expanded perlite, P (9) 218*b*.
Maxwell, D. C. See Appel, A. V.
Maxwell, W. A. Method for improving the high-temperature strength and other properties of molybdenum disilicide and other intermetallic compounds, P (2) 37*h*.
Maxwell, W. A., and Douglas, J. Process of casting heavy slips, P (11) 266*b*.
May, J. E. See Kronberg, M. L.
May, J. E., and Kronberg, M. L. Temperature dependence of plastic yield stress of single crystals of magnesium oxide, (11) 272*c*.
Mayhew, R. W., Ruff, R. O., and Vogelpohl, R. L. Forming glass articles, P (8) 189*e*.
Mayo Mfg. Co., Inc. Safety device for [pneumatically controlled] press, P (11) 266*c*.
Mazo, E. E. See Bezborodov, M. A.
Mazzarella, D. A., and Tarnacki, W. J. Thermally sensitive resistor, P (9) 215*c*.
Mazzi, F. See Jona, F.
Mazzi, F., Jona, F., and Pepinsky, R. Preliminary X-ray studies of the nonferroelectric phases of Rochelle salt, (10) 245*a*.
Mchedlov-Petrosyan, O. P., Bunakov, A. G., Govorov, A. A., Latishev, F. A., Levchuk, N. A., and Strel'kova, I. S. Application of thermography in the investigation of mineral binders, (5) 106*g*.
Mead, W. H. Air-solids separation system for blast room, P (9) 205*g*.
Mead Board Sales, Inc. Lifting skid pallet, P (4) 99*f*.
Meaders, R. C. See Weston, D.
Mecarelli, E. See Lupato, G.
Medert, W. C., and Wonders, H. R. Machine for decorating round surfaces, P (6) 136*h*.
Medlin, W. L. Thermoluminescent properties of calcite, (9) 221*i*.
Meffert, W. Electrode attaching device for electric arc furnaces, P (1) 16*e*.
Mehmel, M. Lithium aluminum silicates as ceramic raw materials, (6) 145*f*. Proposals for the technical manufacture of magnesium silicate ceramics from kieserite, (1) 17*a*. Thermal shock resistance and the development of dense technical ceramics with a high thermal shock resistance, (7) 181*b*.
Meiklejohn, W. H., and Bean, C. P. New magnetic anisotropy, (4) 92*d*.
Meiklejohn, W. H., and Carter, R. E. Exchange anisotopy in rock magnetism, (9) 213*i*.
Meinecke, G. Replacement of thorium oxide in optical glasses, (5) 110*f*.
Meinert, N. See Brömer, H.
Meister, G., and Cerulli, N. F. Incandescent lamp, P (6) 136*g*. Method for manufacturing incandescent lamps, P (6) 136*g*.
Meitina, V. A., Popova, E. I., and Magidovich, V. I. Development of a mineral raw material base for feldspar rocks, (6) 145*b*.
Mela, Maschinenbau und Reparatur Hans Stinnes. Glassmaking apparatus, P (9) 209*g*.
Melik-Ankhazaryan, A. F. See Manvelyan, M. G.
Mellen, E. J., Jr., Fasselle, R. J. de, and Webb, J. M. Method of making and drying shell-type refractory molds, P (8) 192*h*.
Meller, F. See Milberg, M. E.
Meller, F., and Milberg, M. E. Structure of some B_2O_3-H_2O glasses, (8) 188*d*.
Mel'vilenko, D. T. Production of plate glass without debiteuses, (3) 57*f*.
Melvill, F. L. Process of preparing chromic oxide, P (6) 146*j*.
Melzer, W., and Schuster, W. Method of rendering porous graphite body impervious to fluids, P (5) 114*h*.
Menard, J. P. See Rheinboldt, W. C.
Mendel, E., and Weinig, S. Generation of dislocations by an electric field in MgO, (10) 244*f*.
Ménéret, J. Some thermal anomalies of zirconia, (5) 127*f*.
Menis, O. See Bachelman, H. C.
Menyuk, N., and Dwight, K. Magnetic properties of nickel-iron ferrite, (1) 12*g*.
Menzer, W. See Rüdorff, W.
Menzhausen-Handt, I. New Höroldt signature, (5) 106*c*.
Menzies, W. C. Heavy media separator apparatus, P (1) 18*f*.
Mercer, R. C. See Slayter, G.
Mercer, R. S. Cement composition and method of preparation, P (5) 107*i*. Inorganic cement mortar for sulfuric acid service, (5) 107*b*.
Mercereau, J. E., and Feynman, R. P. Physical conditions for ferromagnetic resonance, (2) 40*g*.
Meredith, W. F. See Harris, W. M.
Méring, J. See Gatineau, L.
Merker, L. Anisotropy in silicate glass fibers, (10) 227*f*. Method of making monocrystalline calcium titanate, P (9) 218*a*. Method for the preparation of monocrystalline aluminum titanate, P (10) 241*f*. See Beals, M. D.
Mersopassi, T. J. Heat-transfer charts for time-variable boundary conditions—semi-infinite solids, (3) 75*f*.
Merwin, M. C. See Miller, R. M.
Meschter, E. Ingenuity and research pay off, (4) 82*j*.
Messinger, W. See Conway, R. D.
Messmer, K. See Kolbl, F.
Metallgesellschaft, A.-G. Process for providing sintering bed pellets, P (8) 196*h*. See Dyckerhoff Zementwerke A.-G.
Metal Hydrides, Inc. Preparation of titanium nitride of high purity, P (7) 161*f*.
Metal & Thermit Corp. Process for the chlorination of zirconium-bearing materials, P (5) 122*f*.
Metallurgical Processes Co. Apparatus for producing controlled furnace atmospheres, P (8) 197*i*.
Metals Disintegrating Co., Inc. Vertical pulverizing machine, P (6) 147*b*.
Metcalfe, K. A., and Wright, R. J. Coating surfaces by employing an electrostatic field, P (1) 4*a*.
Meyer, C., and Hemley, J. Hydrothermal alteration in some granodiorites, B (9) 223*f*.
Meyer, H. See Rodrique, G. P.
Meyer, H., and Dietzel, A. Flame spraying of ceramic coatings, (9) 205*f*.
Meyer, H., and Harris, A. B. Specific heat of some rare earth iron garnets and YIG at low temperatures, (10) 237*i*.
Meyer, K. Apparatus for transferring material [pellets] from a higher to a lower level, P (4) 95*a*. Calcining or like process, P (6) 133*b*. Process for providing sintering bed pellets, P (8) 196*h*. See Pajenkamp, H.
Meyer, L. Graphite whiskers, (10) 244*g*.
Meyer, R. W., Jr. Electro-optical computing device for surface areas [of glass sheets], P (4) 86*i*.
Meyer, W. M. See Golding, K. E.
Meyerson, M. R., Young, T. R., and Ney, W. R. Gauge blocks of superior stability—initial developments in materials and measurement, (11) 266*k*.
Meyrowitz, R. See Muto, T.
Michael, R. A., Newkirk, J. A., and Preston, W. E. Magnetic dust traps or filters, P (9) 216*b*.
Michal, E. J. Flotation of silicates from titaniferous iron ores, P (2) 45*g*.
Michalko, E. See Hoekstra, J.
Michel, E. See Weiss, A.
Michler, O. Origin of the kaolin and clay deposits in the Karlsbad mines, (3) 70*f*.
Microcyclomat Co. Aerodynamic classifier, P (4) 98*i*. Integrated dry material reducing and classifying means, P (11) 265*g*. Pneumatic classifier system, P (5) 121*g*. Precision grinder with forced circulation classifier, P (8) 199*d*.
Middleswarth, E. T. See Smith, J. J.
Middleswarth, E. T., and Duncan, J. E. Glass composition, P (4) 86*a*.
Midland-Ross Corp. Apparatus for heating metal work, P (8) 197*h*. Car bottomed furnace, P (8) 197*i*.
Mielenz, R. C. See Backstrom, J. E.; Mather, B.
Mielenz, R. C., and Benton, E. J. Alkali-aggregate reaction: Evaluation of the quick chemical test for alkali reactivity of concrete aggregate, (4) 82*f*.
Mielenz, R. C., Wolkodoff, V. E., Backstrom, J. E., and Burrows, R. W. Origin, evolution, and effects of the air void system in concrete (IV) air void system in job concrete, (1) 3*a*.
Mielenz, R. C., Wolkodoff, V. E., Backstrom, J. E., and Flack, H. L. Origin, evolution, and effects of the air void system in concrete (I) entrained air in unhardened concrete, (1) 2*j*.
Mii, H. See Yamada, K.
Mike, T. M., Steierman, B. L., and Degering, E. F. Effects of electron bombardment on properties of various glasses, (9) 206*d*.
Mikhailov, N. P. See Rabinovich, M. A.
Mikheeva, V. I., Dymova, T. N., and Shkrabkina, M. M. Production of sodium hydride, (3) 70*h*.
Milberg, M. E. See Meller, F.; Parsons, J. L.
Milberg, M. E., and Meller, F. Structure of vitreous $B_2O_3 \cdot 1/3H_2O$, (7) 179*f*.
Miles, E. C. Windshield glass, P (7) 159*e*.
Miles, G. G., and McMackin, J. Automatic inspection apparatus for glass containers, P (2) 32*b*.
Mill, C. C. (editor). Rheology of Disperse Systems—Proceedings of a Conference of the British Society of Rheology, Swansea, Sept. 1957, B (6) 153*j*.
Miller, A. Valence and distribution of manganese ions in ferrospinels, (9) 214*j*.
Miller, A. H. See Walters, R. L.
Miller, B. C. Apparatus for and method of heat-treating articles, P (9) 217*d*.
Miller, C. E. See Geller, S.
Miller, E. J. B. Color harmony selection assembly, P (11) 250*f*.
Miller, E. P. Method of electrostatically coating by causing coalescence of coating droplets, P (6) 144*b*.
Miller, G. D. Catalyst bed support, P (1) 9*j*.
Miller, G. E. See Moss, L. L.
Miller, G. T., Jr. See Lawless, K. R.
Miller, H. C. Cassette and holder therefor for back reflection cameras, P (2) 43*a*.
Miller, H. L. See Baden, T. A.
Miller, J. S. See Arkoosh, G. T.
Miller, J. T. Thermocouple materials for the measurement of temperatures above 1600°C., (8) 197*a*.
Miller, L. Investigation of the surfaces of quartz and germanium dioxide, (5) 125*j*.
Miller, R. F. See Rolfe, B. N.
Miller, R. M., Lodge, J. R., and Merwin, M. C. Roofing granules, P (1) 11*h*.
Miller, V. P. Automatic transfer for use in making pottery, P (10) 236*c*.
Miller, W. H., and Alexander, M. R. Method for producing filamentary material, P (4) 87*a*.
Miller Pottery Engineering Co. Automatic transfer for use in making pottery, P (10) 236*c*.
Milligan, L. H. See Ault, N. N.
Milliken, T. H., Jr. See Donovan, J. J.
Millman, N., and Whitley, J. B. Apparatus and method for treatment of clay, P (4) 98*f*.
Millner, G. W. C. Principles and Applications of Polarography and Other Electroanalytical Processes, B (1) 25*b*.
Millot, G. See Faust, G. T.
Mills, I. W. Preparation and use of acid activated clay, P (11) 269*g*.
Mills, I. W., and Gallup, W. A. Polymerization of gaseous olefins by means of a catalyst consisting essentially of an oxygen treated bauxite, P (7) 167*g*.
Milne, A. A. Expansion of fired kaolin when autoclaved and the effect of additives, (7) 173*b*.
Milne, I. H. See Earley, J. W.
Milwaukee Motive Mfg. Co. Grinding disks, P (1) 1*f*.
Minakov, A. G. See Gorodinskii, G. M.; Khemelvskii, V. I.
Minakov, A. G., and Dubrovskaya, T. S. Chemical processes in glass polishing, (6) 134*i*.

Minaxov, A. G., Korchagina, Z. F., and Pozarskii, N. I. Steklofon, (10) 229*a*.

Mineral Processing Corp. Separation of fine sized solids, P (11) 269*i*.

Minerals & Chemicals Corp. of America. Activation of clay [for catalysts] by acid treatment, aging in inhibited oil, and calcination, P (7) 167*d*. Improving clay brightness by flotation and fine grinding, P (6) 146*j*. Preparation of spherical contact masses, P (1) 19*f*. Surface modified kaolin clay, P (11) 269*j*. Vitreous refractory composition, P (11) 261*f*.

Minerbe, M. Thermoanalyzer of C.E.R.I.L.H., (4) 96*i*.

Minimax, Ltd. Method and apparatus for spray coating the interior of hollow articles, P (7) 165*c*.

Minkovich, B. D. Use of waste chrome-magnesite refractories in the production of chrome-magnesite brick, (9) 212*c*.

Minnesota Mining & Mfg. Co. Artificially colored roofing granules, P (10) 231*i*. Ion exchange glass and use, P (10) 230*c*. Method of making artificially colored granules, P (7) 159*j*. Process for coloring coarse aggregate, P (8) 194*c* Roofing granules, P (1) 11*k*.

Minnick, L. J., and Danforth, C. A. Method of handling lime, P (6) 133*c*.

Minowa, S., and Kato, M. Reaction between molten steel and refractories (III) observation of the interface between Al_2O_3-SiO_2 refractories and molten steel, (10) 233*b*; (IV) behavior of C, Si, and O in steel melted in Al_2O_3-SiO_2 crucibles in a vacuum, (10) 233*d*.

Minskii, Ya. M. See Ivanov, E. V.

Minsos, A. O. Up to date clay products for contemporary buildings, (6) 137*i*.

Miralles, J. C. Bauxites of northeastern Spain, (1) 17*d*.

Misra, M. L. See Bhuta, V. S.

Mitchell, B. J. X-ray spectrophotographic determination of tantalum, niobium, iron, and titanium oxide mixtures—using simple arithmetic corrections for interelement effects, (3) 79*f*.

Mitchell, D. W. See Gilleo, M. A.

Mitchell, R. H. See Shannon, R. F.

Mitra, G. B. Evidence of lattice defects preceding oriented transformations during the heat-treatment of kaolinite, (8) 200*d*.

Mitsuhashi, H., and Nakayama, T. Apparatus for the study of spectral response of photoelectric surfaces, (4) 96*f*.

Mitsuki, C. Stronger gypsum plaster, (1) 3*c*. See Hayashi, N.

Mitsuki, C., and Ito, T. Plaster mold for casting (I) linear change of the dimension of the mold by heating, (8) 186*b*.

Mitsuki, C., and Kita, M. Transition of calcium sulfate hemihydrate to insoluble anhydrite, (9) 221*i*. Transition of a soluble anhydrite into an insoluble one, (7) 155*b*.

Mittag, C. 60 years of tube mills for the cement industry, (11) 265*b*.

Mitusch, H. See Lehmann, H.

Miyabe, H. See Yamaguchi, G.

Miyakawa, T. See Nakahara, M.

Miyata, N. See Funatogawa, Z.

Miyazawa, K. See Sanada, Y.

Mockrin, I. Dielectric materials, P (2) 40*b*.

Modigliani, P. Method and apparatus for forming condensed glass fiber mats, P (4) 86*j*.

Modl, E. M. Cermets with high impact strength, P (5) 114*c*.

Mogensen, F. Theory of the Sizer method [of grading] and practical results in the refractories industry, (11) 259*h*.

Mohler, N. F. Columbia Brick and Tile Co. now producing 75 million bricks a year from two tunnel kilns, (11) 257*e*. Sole Georgia aggregate company running full blast to meet increased demands, (11) 257*k*.

Mohn, H. See Heraeus, W. H.

Mohrenstein, A. Device for balancing grinding wheels during their rotation, P (9) 203*c*.

Moiseenko, U. I. Experimental use of the biogeochemical type of survey in prospecting for uranium deposits in swampy areas, (1) 17*i*.

Moldvai, Á. S. Investigations of the condition of formation of lithium aluminosilicates, (11) 271*b*.

Moll, W. L. H. Summary of scientific technical publications: Determination of the specific surface by adsorption (powders, porous materials, and other colloidal systems), (5) 128*h*.

Molloy, M. W. Comparative study of ten monazites, (6) 147*j*.

Momm, W. W. Ladle flow control device, P (6) 140*d*.

Monack, A. J. Method of making an electrode structure, P (3) 66*i*.

Monolith Portland Cement Co. Rotary kiln construction, P (6) 133*e*.

Monolith Portland Midwest Co. Rotary kilns, P (6) 133*f*.

Monsanto Chemical Co. Method for chlorinating titanium oxide material, P (9) 218*i*. Method of increasing fluidity of aqueous industrial mineral slurries, P (2) 29*c*. Preparation of alumina sols, P (8) 199*d*. Process for the preparation of silica gel and silica aerogels, P (7) 168*f*. Water-soluble fluorescent dye-coated hydrophobic silica, P (9) 218*h*.

Monsanto Chemicals, Ltd. Slip-casting process, P (10) 235*h*.

Montagnier, J. Refractory products—development and uses in the foundry, (7) 160*h*.

Montecatini-Società Generale per l'Industria Mineraria e Chimica. Aqueous dispersions of high molecular weight fibrils of amorphous silicates, P (5) 121*f*. Spinning nonfused glass fibers from an aqueous dispersion, P (3) 59*a*.

Montgomery, C. W. See Horne, W. A.

Montgomery, J. See Pfund, E. T., Jr.

Montgomery, R. L., and Hubert, T. D. Thermochemistry of samarium, (9) 221*e*.

Monument, W. E. Production of sand and sand classification, (3) 70*g*.

Moody, H. L. Principles of good design in ceramic whiteware, (11) 250*e*.

Moon, S. C. Conveyer idler stand, P (7) 165*d*.

Moore, A. See McTaggart, F. K.

Moore, D. See Baas Becking, L. G. M.

Moore, D. G., and Thornton, H. R. Effect of oxygen on the bonding of gold to fused silica, (4) 100*i*.

Moore, D. M., and Field, H., Jr. Temperature indicator, P (8) 197*d*.

Moore, E. D., and Reed, R. J. Adjustable silk screen device, P (4) 95*h*.

Moore, F. Rheology of ceramic slips and bodies, (11) 271*a*.

Moore, G. E. Dissociation of solid SrO by impact of slow electrons, (9) 219*d*.

Moore, H. D., Kibbey, D. R., and Morris, W. T. Ceramic tool research, (10) 225*e*.

Moore, J. A. See Bowtell, J. N.

Moore, J. E. Single-step conversion of UO_3 to UF_4, P (11) 273*c*.

Moore, N. C. See Stirland, D. J.

Moore, N. C., and Huffadine, J. B. Friction members having sintered compositions, P (4) 89*i*.

Morehouse, D. W. Drier for granular materials, P (8) 196*g*.

Morelli, G. W. Electrode connecting nipple, P (10) 235*a*.

Morgan, A. D. See Hanson, C. C.

Morgan, A. D., and Greenhill, J. M. Results of experiments on shot blasting of cast iron with various grits, (2) 30*f*.

Morgan, K. Z. See Struxness, E. G.

Morgan, R. Gaseous electron tube, P (7) 155*e*.

Morgan, W. L. See Colbert, W. H.

Mori, H. See Yoshii, T.

Mori, K. Electrical conductivity of molten slags containing titanium oxide (IV) CaO-SiO_2-TiO_2 system, (5) 113*e*.

Mori, S., Ishikawa, E., and Seimiya, S. Study on sodium compounds in red mud, (2) 44*i*.

Morita, S. See Kuroda, E.

Morley, J. G. Strength of glass fibers, (4) 85*i*.

Morozov, N. V. See Chernozubov, S. A.

Morozova, M. P. See Ariya, S. M.

Morris, F. C. See Auge, O. A.

Morris, J., & Sons (Detectors), Ltd. Apparatus for detecting temperature changes, P (4) 96*j*.

Morris, J. R., and Henning, F. E. Template cutting apparatus for bent sheets of glass, P (8) 190*d*.

Morris, W. E. Method and apparatus for spray drying, P (6) 146*c*.

Morris, W. T. See Moore, H. D.

Morris Clay Products Co. Method of hacking brick, P (11) 258*a*.

Morrish, A. H. See Watt, L. A. K.

Morrish, A. H., and Yu, S. P. Magnetic measurements on individual microscopic ferrite particles near the single-domain size, (11) 263*b*.

Morrison, A. R. Apparatus for forming fibrous glass, P (9) 208*i*.

Morrison, C. A. Dust meter, P (1) 14*i*.

Morrissey, W. J. See Broderick, E. J.

Morse, G. T. Case molds, P (8) 196*e*.

Mortimore, H. See Hurt, N. A.

Moruzzi, V. L., and Shafer, M. W. Phase equilibria in the system La_2O_3-iron oxide in air, (8) 201*h*.

Moscou, L., and Vlies, G. S. van der. Electron microscope investigations on the morphology of aluminum hydroxides, (5) 124*g*.

Moser, F. Wetting phenomena—a means for determining adhesion, (11) 254*f*.

Moser, G. Oxidation process, P (6) 146*h*.

Moss, L. L., and Miller, G. E. Test to determine resistance of porcelain enamel to condensing water vapor, (7) 155*i*.

Moss, T. S. Optical Properties of Semi-Conductors, B (3) 80*a*.

Moteki, A. Studies on the injection molding of ceramics (I) factors affecting the workability (fluidity) of resins used for injection molding, (11) 268*h*; (II) various factors in the heat-treatment of the injection molded ceramic products, (11) 268*i*.

Motorola, Inc. Crystal oven, P (8) 194*j*. Electrodynamic spectrograph, P (9) 222*a*.

Mott, R. A., and Parker, C. Studies in bomb calorimetry (XI) determination of the calorific value of gases; miscellaneous, (6) 148*i*.

Mould, R. E. Strength and static fatigue of abraded glass under controlled ambient conditions (III) aging of fresh abrasions, (4) 85*b*.

Mould, R. E., and Southwick, R. D. Strength and static fatigue of abraded glass under controlled ambient conditions (I) general concepts and apparatus, (1) 5*b*; (II) effect of various abrasions and the universal fatigue curve, (1) 5*j*.

Moulding, P. See Toye, R.

Moum, J., and Rosenqvist, I. T. Sulfate attack on concrete in the Oslo region, (9) 204*c*.

Moyrand, J. See Charcuset, R.

Mrazek, F. See Koleda, M.

Mrose, M. E. See Carron, M. K.

Mrozowski, S., and Chaberski, A. Hall effect and magnetoresistivity in carbons and polycrystalline graphites, (2) 30*d*.

Muan, A., and Somiya, S. Phase equilibria in the system iron oxide–Cr_2O_3–SiO_2 in air, (11) 271*e*. Phase equilibrium studies in the system iron oxide–Al_2O_3–Cr_2O_3, (1) 20*d*. Phase relations in the system iron oxide–Cr_2O_3 in air, (5) 126*f*.

Muccigrosso, A. T. See Ploetz, G. L.

Muehleck, E., Kinney, H. C., and Lanz, R. L., Jr. Apparatus for molding articles from slurry, P (2) 42*a*.

Müller, G. Development in Germany of porcelain for chemical and technical uses since the 18th century, (2) 37*j*.

Müller, H. See Hecht, A.

Müller, H. J., and Hänlein, W. Apparatus and method for the production of glass foil, P (4) 86*b*.

Münnich, F. Diffusion of zinc in zinc oxide, (9) 219*b*.

Muhlrad, M. Industrial dust elimination, (1) 22*b*.

Mukerjee, L. N., and Srivastava, S. N. Emulsification and wetting of solids, (5) 125*b*.

Mullan, D., and Zilahy, E. High speed incandescent lamp assembling machine, P (9) 209*j*.

Mumford, E. H. Cooling system for glassforming molds, P (7) 158*g*. Method of transferring parisons, P (5) 112*b*.

Mumpton, F. A., and Roy, R. Low-temperature equilibria among ZrO_2, ThO_2, and UO_2, (6) 148*e*.

Munakata, M., Kawamura, S., Asahara, J., and Iwamoto, M. Effects of vanadium in the lower valence state on the electrical conductivities of high vanadium-phosphoric acid glass, (11) 253*h*.

Mundie, P. Management problems affecting people, (5) 129*h*.

Munford, T. W., and Nesbitt, J. D. Apparatus for heating metal work, P (8) 197*g*.

Murad, A. B. See Carter, P. T.

Murakami, K. See Tanaka, H.

Murakami, K., Tanaka, H., Ikehata, T., and Suga, F. Reactions between $CaSO_4 \cdot {}^1/_2H_2O$ and $3CaO \cdot Al_2O_3$, $4CaO \cdot Al_2O_3 \cdot Fe_2O_3$, and $2CaO \cdot Fe_2O_3$, (10) 226*d*.

Murano, T. See Muto, T.

Murata, K. J. See Carron, M. K.

Murdoch, J. See McConnell, D.

Murnaghan, A. R. See Bond, R. L.

Murphy, J. L. See Appel, A. V.

Murphy, T. D. Distribution of silica resources in the eastern U.S., (7) 166*j*.

Murray, G. T. Brittle-ductile transition temperatures in ionic crystals, (7) 169*j*.

Murray, H. H. See Bundy, W. M.; Harrison, J. L.

Murray, P. See Denton, I.; Livey, D. T.; Reeve, K. D.; Williams, J.

Murray, P., and Allison, E. B. Study of the monoclinic⇄tetragonal phase transformation in zirconia, (7) 180*c*.

Murray, P., Rodgers, E. P., and Williams, A. E. Practical and theoretical aspects of the hot pressing of refractory oxides, (1) 9*a*.

Murray, P., Thackray, R. W., Rado, P., and George, D. Preparation and properties of slip-cast calcium fluoride crucibles, (3) 61*b*.

Murray, P., and White, J. Kinetics of the thermal dehydration of clays (I) dehydration characteristics of the clay minerals, (7) 174*a*; (II) isothermal decomposition of the clay minerals, (7) 174*b*; (III) kinetic analysis of mixtures of the clay minerals, (7) 174*c*; (IV) interpretation of the differential thermal analysis of the clay minerals, (7) 174*c*.

Murthy, M. K., and Hummel, F. A. X-ray study of the solid solution of TiO_2, Fe_2O_3, and Cr_2O_3 in mullite ($3Al_2O_3 \cdot 2SiO_2$), (6) 149*f*.

Murthy, T. K. S. See Nagle, R. A.

Muto, T., Meyrowitz, R., Pommer, A. M., and Murano, T. Ningyoite, a new uranous phosphate mineral from Japan, (6) 148*j*.

Myasnikov, A. A. Glass wall tile with fire-polished surfaces, (10) 228*e*.

Mycalex Corp. of America. Ceramoplastic, P (1) 13*b*.

Mycalex Electronics Corp. of America. Method of making an electrode structure, P (3) 66*i*.

Myers, J. W. Catalyst and process for the conversion of hydrocarbons, P (1) 18*a*.

Myshlyaeva, L. V. See Kreshkov, A. P.

Naalfeld, H. Dehydration of gibbsite and the structure of a tetragonal γ-Al_2O_3, (7) 171*a*.

Nachtman, J. S. Aluminum base powder products, P (11) 260*a*. Method of producing refractory fiber laminate, P (10) 231*a*. See Eisen, J. B.

Nack, H. R. Manufacture of flexible metal-coated glass filaments, P (10) 230*e*.

Naeser, G., and Scholz, W. Effect of mechanical treatment on the reactivity of solids, (5) 124*b*.

Nagai, S. See Arai, Y.; Yamada, T.

Nagai, S., Tokutake, H., and Yamakawa, H. Lime slag cement for use in masonry (V), (9) 204*c*.

Nagai, S., Tokutake, H., Yamakawa, H., and Hashimoto, T. Lime slag cement for use in masonry (VI), (11) 251*g*.

Nagami, K., and Isoda, K. Practical test of special silica brick, (7) 160*d*.

Nagle, R. A., and Murthy, T. K. S. Ion-exchange method for the separation of thorium from rare earths and its application to monazite analysis, (9) 220*e*.

Nagy, E., and Szabo, J. Electroluminescent cell, P (10) 238*j*.

Naidus, E. S. Electrical capacitors, P (3) 65*h*.

Naito, R., and Kato, S. Thermal shock resisting porcelain (I) preliminary experiment, (2) 38*f*; (II) MgO–Al_2O_3–SiO_2 system, (2) 38*h*.

Naito, R., Takemoto, K., and Uchikawa, H. Experiments on the relation between the neutralization of blended cement mortar and the formation of rust in reinforcing steel, (11) 251*c*.
Naito, T. Japanese ceramic terms: *Akas* and *Tenkei*, (1) 1*j*.
Naka, S. See Kato, E.
Nakahara, M., Kasai, J., Miyakawa, T., Aoki, S., Kunitomo, Y., and Kadokura, T. Effects of copper, lead, and zinc compounds and sugar on the setting of Portland cement and plaster of Paris, (2) 28*g*.
Nakahira, M. See Brindley, G. W.
Nakamura, H., Kawai, N., and Kudaka, K. Study on OP magnet (I) influence of solid state reaction on sintering of ferrite magnet, (7) 163*e*.
Nakamura, M. Skull type arc-melting furnace for titanium (I) construction, (1) 16*d*. See Tachibana, S.
Nakamura, M., Fujino, S., Suzuki, S., Matsuo, S., and Shirayanagi, I. Skull type arc-melting furnace for titanium (II) operating conditions, (1) 16*e*.
Nakamura, S. See Watanabe, K.
Nakatani, Y. See Tsuchihashi, S.
Nakayama, J. Surface cracks of sheet glass produced by sodium vapor treatment, (5) 111*a*.
Nakayama, N. See Yamada, K.
Nakayama, T. See Mitsuhashi, H.
Nakazawa, Y., Uetsuki, T., Masuda, Y., and Uei, I. Experiments on the firing of zirconia refractories, (11) 258*d*.
Nalchadzhyan, S. O. See Manvelyan, M. G.
Nalco Chemical Co. Metal casting molds, P (11) 260*d*. Method and composition for combatting slag formation on refractory surfaces, P (11) 260*g*. Process of concentrating aqueous silica sols, P (8) 190*f*. Silica-alumina compositions, P (10) 242*f*. Siliceous casting cores, P (11) 261*e*.
Nandi, D. N. See Banerjee, J. C.
Napier, D. H. See Bond, R. L.
Narasimhan, M. D. See Kingery, W. D.
Náray-Szabó, I. Relation between the structure and the physical properties of glass (III) thermal expansion of glass, (3) 57*i*.
Naruse, A., Shimura, F., and Watanabe, A. Throat of a glassmelting tank (III) investigation of three-dimensional flow of the throat current by model experiments, (3) 57*c*.
Natco Corp. Filter blocks, P (8) 190*i*.
Nath, P. See Ram, A.
National Airoil Burner Co., Inc. High pressure gas burners, P (9) 217*g*.
National Aluminate Corp. Purification of synthetic alumina catalyst bases, P (3) 72*d*.
National Distillers and Chemical Corp. Metal halide production, P (4) 99*j*.
National Gypsum Co. Pressure hydrated lime, P (2) 29*g*. Sound absorptive structure, P (9) 205*b*.
National Lead Co. Ceramic frit composition, P (5) 108*g*. Ceramic glaze, P (8) 194*d*. Flotation of silicates from titaniferous iron ores, P (2) 45*g*. Method of making monocrystalline calcium titanate, P (9) 218*a*. Method for making titanium boride from phosphates, P (8) 192*i*. Method for making titanium nitride, P (1) 18*e*. Method for the preparation of monocrystalline aluminum titanate, P (10) 241*f*. Method for wet milling rutile pigment, P (8) 198*i*. Preparation of ceramic frit compositions, P (5) 116*b*. Stabilization of vitreous enamel stains, P (9) 205*i*.
National Research Development Corp. Diffractometers, P (7) 166*a*.
National Union Electric Corp. Cathode-ray tube for radarscopes, etc., P (10) 238*e*.
Naujoks, L. Permeameter with a constant pressure device for determining the permeability of soils of low permeability, (6) 144*g*.
Naumann, P. See Glemser, O.
Naumov, N. V. See Lisovskil, D. V.
Navias, L. See Sears, G. W.
Nazarchuk, T. N. Chemical stability of boron carbide, (10) 232*f*.
Nazarenko, N. D. See Karyakin, L. I.
Nazarov, M. P. See Bashev, F. P.
Nazzewski, M. Glass sealing apparatus, P (11) 255*j*.
Neal, J. R., Jr. See Hoopes, H. P.
Needham, B. A. Method of making a heating panel, P (10) 227*b*.
Neese, H. Conditions of formation of calcium hydrosilicates in the system CaO–SiO_2–H_2O, (6) 132*d*.
Neffien, K. F. Plastic film abrasive sheet, P (9) 203*f*.
Neisel, R. H. Prediction of temperature rise in fire testing of walls and partitions, (1) 22*e*.
Nelsen, F. M., and Eggertsen, F. T. Determination of surface area—adsorption measurements by a continuous flow method, (3) 74*a*.
Nelsen, R. N. Method of forming an adherent film of magnesium oxide, P (10) 227*a*.
Nelson, B. W., and Roy, R. Synthesis of the chlorites and their structural and chemical constitution, (4) 102*i*.
Nelson, C. M., and Weeks, R. A. Trapped electrons in irradiated quartz and silica (I) Optical absorption, (9) 208*d*.
Nelson, D. F. Identification of Lucas 700 headlamp glass fragments by their physical properties, (4) 85*c*.
Nelson, K. E., and Cook, R. L. Effect of contamination introduced during wet milling on the electrical properties of barium titanate, (1) 12*e*.
Nelson, K. E., and Thurnauer, H. Barium titanate insulators, P (4) 93*b*.
Nelson, R. A., and Zirinsky, S. Heat resistant composition, P (9) 212*a*.
Nelson, R. P. See Kingery, W. D.
Nelson, W. E. See Dempster, A. N.
Nelson Chemicals Co. Process of making alkali subsilicates, P (10) 242*i*.
Nemetschek, T. Electron microscope investigations on mullite, (5) 124*i*. See Hofmann, U.
Nensewitz, K. Tips on lightweight aggregate handling, (1) 7*e*.
Nerwin, H. N., Jr. Sonic thickness measuring apparatus, P (6) 144*j*.
Nesbitt, J. D. See Munford, T. W.
Ness, H. J. See Rusciano, F. A.
Networks Electronic Corp. Method of fusing metal to glass articles, P (1) 6*f*.
Neudorfer, F. See Kainzner, A.
Neugebauer, J. See Hegedüs, A. J.
Neumann, H. Ferrite magnetic heads, P (11) 263*i*.
Neville, A. M. Creep recovery of mortars made with different cements, (4) 82*g*. Role of cement in the creep of mortar, (3) 54*e*.
Nevredimova, P. V. See Shalkov, K. A.
New Jersey Zinc Co. Production of finely divided silicon dioxide, P (5) 122*c*. Treatment of zinc oxide, P (10) 242*i*.
Newby, N. D. Method of making an insulated conductor, P (3) 66*a*.
Newcomb, E. W. Method of coating a spray wheel, P (10) 241*c*.
Newell, G. S. See Castner, T., Jr.
Newell, W. J., and Lewis, T. W. Cementitious structural material, P (1) 3*c*.
Newkirk, H. W. See Brenden, B. B.
Newkirk, H. W., and Bates, J. L. Filament furnace for microscopy studies at high temperatures, (2) 42*j*.
Newkirk, H. W., and Brenden, B. B. Carbon arc image furnace and microscope for studies at high temperatures, (4) 96*h*.
Newkirk, H. W., Sisler, H. H., and Shevlin, T. S. Microstructural changes in titanium carbide-base cermets at 2000°F., (9) 211*f*.
Newkirk, J. A. See Michael, R. A.
Newman, D. W. See Kremers, H. E.
Newman, E. S. Heat of formation of potassium calcium silicate, (2) 46*d*.
Newnham, I. E. Method of purifying zirconium tetrahalide, P (4) 100*c*.
Newton, I. Chinese ceramic wares from Hunan, (2) 27*j*.
Ney, H. Garden ceramics, (3) 52*f*.
Ney, W. R. See Meyerson, M. R.
Nichol, L. Potential difference at steel-cement contacts, (3) 54*a*.
Nickerson, J. D. Oxidation resistant articles, P (3) 62*f*.
Nickerson, R. F. Process for the preparation of silica gel and silica aerogels, P (7) 168*f*.
Nicol, A. High-sulfate, low-lime mixtures of slag and fly ash, (3) 54*b*.
Nicolas, J. Genesis of the Guiscriff kaolins, (7) 167*a*. See Legrand, C.
Nicot, B. N. F. See Stourdzé Visconti, Y.
Nicot, B. N. F., Stourdzé Visconti, Y., and Goulart de Andrade, E. Plasticity and mechanical strength of Brazilian clays, (5) 121*d*.
Nielsen, J. W. Improved method for the growth of yttrium-iron and yttrium-gallium garnets, (10) 237*i*.
Nieman, C. W., and Lawrence, J. B. Polymix gas burner, P (4) 98*c*.
Niemann, K. D. See Fischer, W.
Niems, L. H. Apparatus for cooling particles, P (1) 16*a*.
Niepenberg, H. Short flame gas burners (I, II), (2) 44*c*.
Nies, B. W., and Johnson, E. S. Calcination of gypsum, P (4) 83*c*.
Niesper, A. A. Injection oil firing for brick kilns, (2) 43*g*.
Niizeki, N. See Buerger, M. J.
Nikander, B. Cement production skyrockets in Soviet Russia, (10) 226*j*.
Nikitin, Yu. P., Esin, O. A., and Popel, S. I. Electrocapillary phenomena for various compositions of metal and slag, (2) 35*f*.
Nikolaev, N. S., and Sukhoverkhov, V. F. Synthesis of the highest fluorides of the rare elements by the halogen fluorides, (11) 272*h*.
Nikulina, L. N., and Taraeva, T. I. Petrographic characteristics of Chinese porcelain stone, (9) 218*a*.
Nimblett, A. H., Jr. Metering apparatus for material divided into small particles, P (5) 118*h*.
Nishimura, T. See Isomura, M.; Matsumoto, Y.
Nishimura, Y. See Okuda, H.
Nizhegorodov, N. N. See Dobuzhinskil, V. I.
Noake, H. See Watanabe, M.
Noble, W. See Ford, R. W.
Noble, W., Williams, A. N., and Clews, F. H. Influence of moisture content and forming pressure on the properties of heavy clay products, (9) 210*c*.
Nobles, E. L. One coat white process, (7) 155*h*.
Noel, H. Oriental art in Argentina, (1) 2*b*.
Noguchi, C. See Kuroda, E.
Noguchi, C., Kawai, N., and Aral, Z. Synthesis of titanium carbide (I) crystalline titanium carbide from titanium dioxide and carbon black, (7) 161*b*.
Noll, W., Kircher, H., and Sybertz, W. Adsorption and specific surface of silicates with tubular primary crystals, (5) 123*c*.
Nolte, H. J. Metalizing ceramics, P (3) 66*c*. See De Santis, V. J.
Nordberg, M. E. Aperture mask treatment to prevent cathode poisoning, P (3) 57*d*.
Nordberg, M. E., Jr. See Parker, C. J.
Nordberg Mfg. Co. Feeding means for gyratory crushers, P (5) 121*i*. Lubricating system for crusher bearings, P (4) 99*g*. Mantles for [gyratory] cone crushers, P (4) 99*h*. Seals for gyratory crusher shafts, P (5) 122*h*. Tightening device for mantles and liners in crushers, P (5) 122*i*.
Norddeutsche Affinerie. Production of aluminum powder, P (8) 199*f*.
Nordgren, H. See Sundius, N.
North American Aviation, Inc. Method of heat-treating metals employing an oxidation scale inhibitor, P (1) 4*b*.
North American Philips Co., Inc. Device for molding anisotropic permanent magnets, P (3) 65*f*. Dispenser cathode, P (8) 195*a*. Electric discharge tube, P (6) 143*d*. Electroluminescent element, P (4) 93*j*. Ferromagnetic cores and method, P (7) 164*d*. Ferromagnetic material, P (7) 164*f*, P (11) 263*g*. Flying spot scanning system for particle counting apparatus, P (1) 15*f*. Glow discharge tube, P (7) 155*f*. Magnet cores having a substantially rectangular hysteresis loop, P (3) 66*d*, P (4) 93*b*. Making anisotropic permanent magnets, P (1) 13*d*. Method of magnetizing an anisotropic permanent magnet, P (7) 164*a*. Method of producing zinc selenide, P (8) 195*f*. Photoconductive device, P (9) 209*b*. Piezoelectric quartz crystal of elongated shape, P (7) 164*b*. Red luminescent material, P (2) 46*a*. Thermionic cathode, P (7) 164*f*. Thermionic dispenser cathode, P (1) 14*a*. X-ray analysis apparatus, P (7) 182*a*.
Northcott, R. P., and Houssam, E. C. Hydrocatalytic desulfurization of gas oil, P (1) 18*h*.
Northern Pigment Co., Ltd. Method of forming uniform uncontaminated iron oxide for pigment and other uses, P (2) 45*j*.
Northover, W. R. See Flaschen, S. S.
Norton, F. H. Ceramics and the future, (9) 222*e*. See Brown, S. F.
Norton Co. Electrostatic device, P (6) 131*f*. Grinding machine, P (5) 105*h*. Grinding wheel structure, P (11) 249*i*. Method of forming coated abrasives, P (7) 153*g*. Process for the concentration of zirconia, P (7) 167*i*. Processes and anodes for the electrolytic extraction of the metals Ti, V, Cr, Zr, Nb, Mo, Hf, Ta, and W from their carbides, P (5) 122*e*. Sintered bearing composition, P (4) 90*c*.
Nosova, Z. A. Mechanism of opacifying glazes with zircon and tin oxide, (2) 38*i*. Replacing tin oxide with zirconia in opaque glazes, (5) 115*i*.
Nossardi, G., and Marengo, M. Method of and installation for the continuous extraction of magnesium with milk of lime from sea waters, etc., P (10) 235*f*.
Notz, K. J., and Jaffé, H. H. Correlation of TGA and DTA temperatures in decomposition reactions, (2) 46*f*.
Novacic, L. See Lupato, G.
Novikov, A. N. Plastic shaping of ware of monomineral composition by the use of paste, (1) 8*i*.
Novitskil, L. A. Improving the transparency of glass S-23 in the near infrared, (9) 207*i*.
Novoselova, A. V. See Borzenkova, M. P.
Nowotny, H., Kieffer, R., Benesovsky, F., and Laube, E. High-melting carbides, silicides, and borides, (11) 270*d*.
Noyes, R. D. See Keutgen, W. A.
Nuclear Research Corp. Testing apparatus, P (7) 166*a*.
Nützenadel, P. Attempts to produce a synthetic ceramic flux, (6) 145*i*.
Nurse, R. W., Welch, J. H., and Gutt, W. New form of tricalcium phosphate, (8) 201*d*.
Nusseazveig, H. M. Solution of a diffraction problem (I) wide double wedge; (II) narrow double wedge, (8) 201*g*.
Nyburg, S. C. Color of inorganic compounds, (6) 147*i*.

Oberlies, F. See Pohlmann, G.
Obidina, S. P. See Tykachinskil, I. D.
O'Brien, N. H., and Ray, E. H. Effect of self-opacified titania glazes on ceramic stains, (8) 193*b*.
Obrowski, W. Platinum resistance thermometer for high temperatures, (9) 216*f*.
Obukhov, V. M. See Dubinin, V. T.
Ochiai, Y. See Suzuki, T.
Odishaw, H. See Condon, E. U.
Oehme, F. Analysis of mixtures of quartz and feldspar by an immersion method of determining the dielectric constant, (3) 63*b*. Determination of water by dielectric measurements, (9) 219*a*.
Oertle, D. H. See Radd, F. J.
Ogarkov, A. F., and Mamykin, P. S. Effect of moisture content of bodies and forming pressure on density of unfired and grog refractories made by semidry pressing, (9) 210*j*.
Ogawa, H. (formerly Hamamura, H.) See Izumitani, T.
Ogawa, K., and Bando, Y. Preliminary experiments on the formation of TiC from Ti hydride, (8) 191*j*.
Oglebay Norton Co. Apparatus for and method of providing a protective lining on a hot top, P (10) 234*h*.
Ogorzaly, H. J. Method of making coprecipitated silica-alumina catalyst, P (3) 71*c*.
Ohara, I. See Saito, C.
Ohio Brass Co. Ceramic products, P (1) 11*e*.
Ohlheiser, C. E. Humidity control device, P (10) 240*e*.

Ohlsson, F. J. O. W. Sintered hard metal alloy, P (1) 10*c*. See Gisner, B.
Ohnemüller, W. See Lehmann, H.
Ohno, Y. See Ohtsubo, M.
Ohno, Y., and Matsuoka, T. Preparation of masonry cements and test results (I), (9) 204*d*.
Ohtsubo, M., and Ohno, Y. Preparation of masonry cements and test results (II), (9) 204*e*.
Oinuma, K., Kobayashi, K., and Sudo, T. Clay mineral composition of some recent marine sediments, (7) 170*e*.
Okamoto, H. See Tuzi, Y.
Okamoto, H., and Tuzi, Y. Adsorption of water vapor on glass and other materials in vacuum, (5) 109*c*.
Okamoto, S. See Kobayashi, J.
Okazaki, A., and Ueda, I. Crystal structure of stannous selenides, (6) 142*b*.
Oki, S., and Imamura, T. Heat of hydration of the system asbestos–cement–water, (2) 28*h*.
Oki, S., and Sato, S. Electrical conductivity of the system asbestos–cement–water, (2) 28*i*.
Okuda, H., Nishimura, Y., and Choshi, I. Grinding with ball mills (I) mills with rubber lining, (4) 95*c*.
Okuda, S., Tanaka, N., and Inoue, K. Effect of adsorbed univalent cations on the dehydration of kaolinite at various temperatures, (7) 172*j*.
Old, A. F. See Gibson, R. F.
Old, A. F., and Gibson, R. F. Rotary kiln, P (10) 240*f*.
Old, A. F., Gibson, R. F., and Duey, R. Von K. Method and apparatus for flotation separation of lightweight aggregate and product, P (8) 198*h*.
Oldenburg, G. Combustion of fuel oil and the application of oil firing, (9) 217*a*.
Oldfield, L. F., and Partridge, J. H. Glass compositions and glass-to-metal seals, P (8) 189*j*, P (9) 209*f*, P (11) 255*f*.
Olin Mathieson Chemical Corp. Blast noise suppressor for an explosive operated kiln device, P (7) 166*f*. Dental preparation, P (9) 213*e*. Method for preparing boric acid, P (5) 121*a*.
Olivar, M. Lovers—a theme in European porcelain of the 18th century, (4) 82*d*.
Oliver, D. R. See Higginbotham, G. H.
Oliver, D. R., and Ward, S. G. Studies of the viscosity and sedimentation of suspensions (V) viscosity of settling suspensions of spherical particles, (9) 221*c*.
Olivier, C. A. See Archambault, M.
Ol'khovskii, I. A. Selection of refractories for rotary kilns used for the direct reduction of iron, (6) 140*b*.
Ol'khovskii, I. A., and Ignatova, T. S. Experimental production of groglesa semiacid products from Chikmakulsk primary kaolin and Nizhne-Uvel'sk semiacid clay, (10) 232*e*.
Olphen, H. van. Forces between suspended bentonite particles (II) calcium bentonite, B (9) 223*i*.
Ol'shevskii, B. N. Vacuum casting of sanitary earthenware products, (5) 115*e*.
Olson, A. W., and Keller, J. N. Metalizing apparatus, P (6) 136*c*.
Olson, C. M., and Tully, J. N. Metal oxide production, P (4) 100*a*.
Olson, E. R. See Barrett, R. E.; Layer, E. H.
Olson, L. J. See Baden, T. A.
Olson, R. H. Apparatus for blanket charging glass batch in a glass furnace, P (3) 57*f*. Method for blanket charging glass batch, P (4) 87*e*.
Olsson, K. G. See Schmidt, B. J. M.
O'Mara, R. F., and Flodin, C. R. Filters and filter media for the cement industry, (3) 53*g*.
Omley, H. A. Metal-to-ceramic seal, P (5) 117*e*.
Onofri, B. Resistance supporting plate [for electric heater], P (4) 89*j*.
Onondaga Pottery Co. Sagger pin, P (4) 91*f*.
Onstott, E. I., and Cremer, G. D. Method for producing cemented carbide articles, P (1) 10*d*.
Ontario Research Foundation. Apparatus for spectrochemical analysis and structural analysis of solids, fluids, and gases by means of X rays, P (3) 79*g*.
Oppenheim, U. P. Experimental verification of theoretical relations between total gas absorptivities and emissivities for Co, (7) 173*d*.
Ordway, F. Matrix algebra for calculating multicomponent mixtures, (7) 154*d*.
Oreclone Concentrating Corp. Apparatus for concentrating ores, P (8) 198*c*.
Orelli, D., and Beauquesne, R. Cyclone séparator, P (3) 68*a*.
Orlova, E. M. See Bogdanova, G. S.
Orlova, I. G. Physicochemical nature of the consolidation of fine-grained Dinas bodies during firing, (10) 233*e*.
Orlova, V. M. See Kovtunenko, G. A.
Ormsby, W. C. Role of surface tension in determining certain clay-water properties, (10) 245*d*.
Ormsby, W. C., and Shartsis, J. M. Clay mineral content of two domestic kaolins, (7) 166*j*. Surface area and exchange capacity relation in a Florida kaolinite, (2) 48*j*.
O'Rourke, H. M. See Cox, J. E.
Orowan, E. See Argon, A. S.
Ortman, F. B. Value and use of research in industry, (10) 246*f*.
Orton, J. W. See Griffiths, J. H. E.
Osborn, E. F. See DeVries, R. C.; Glasser, F. P.
Osburn, C. L., Jr. See Cramer, J. W.
Oshry, H. I. Method of making titanium dioxide capacitors, P (1) 13*f*.
Osika, L. M. See Ploetz, G. L.
Osiko, V. V. Low temperature luminescence of zinc oxide in the red region of the spectrum, (9) 214*c*.
Osmond, W. P. See Harrison, F. W.
Osthoff, R. C. Purification of tungsten carbide, P (5) 105*g*.
Oswald, D. R. Reliability of glass seals for undersea cables, (5) 116*d*.
Oswold, O. G. Adjusting mechanism for slip lamp apparatus, P (10) 246*a*.
Ota, E. See Yamada, K.
Ota, Z., Tanemura, F., and Tsukino, M. Mechanism of attack on limekiln linings (I), (3) 54*f*; (II) reaction between chrome ore and lime, (7) 154*g*.
Otis, L. M. Mineral Facts and Problems (preprints): Diatomite, (7) 167*b*.
Otis, L. M., and Foley, J. M. Diatomite, (6) 145*g*.
Otsuka, A. See Takahashi, K.
Ott, H. Common brick—its history, appreciation, and physical properties, (8) 190*c*.
Ott, J. W. See Cochrane, J. D., III.
Ottendorfer, L. J. Indirect titrimetric determination of zirconium and hafnium in their oxide mixture, (10) 244*f*.
Otto, W. H. See Whitehurst, H. B.
Owen, A. E., and Douglas, R. W. Electrical properties of vitreous silica, (2) 31*g*.
Owen, J. R. Dehydrogenation process and catalyst, P (2) 45*f*.
Owens-Corning Fiberglas Corp. Apparatus for burning fluid combustible mixtures [radiant burner], P (9) 217*d*. Apparatus for contacting molten glass, P (1) 6*d*. Apparatus for feeding and conveying molten glass, P (3) 57*i*. Apparatus for forming and treating fibers, P (2) 32*i*. Apparatus for producing curly glass fibers in mat form, P (7) 158*a*. Apparatus for production of glass fibers, P (3) 57*j*. Dye composition and method of dyeing tightly wound glass fibers sized with a water swellable material, P (2) 32*i*. Glass composition, P (3) 58*h*. Glass fiberization method, P (5) 112*a*. Glass reinforced metals, P (8) 189*e*. Heat-treatment of metal-coated glass fibers, P (2) 33*c*. High temperature glass fiber insulation products, P (10) 230*b*. High temperature resistant vitreous material, P (3) 58*d*. Manufacture of glass fibers, P (11) 256*f*. Method and apparatus for the attenuation of heat softenable materials into fibers, P (9) 209*d*. Method and apparatus for forming fibrous glass, P (6) 136*j*, P (8) 189*h*, P (9) 208*i*, P (11) 254*i*. Method for attenuating and treating glass fibers, P (5) 112*h*. Method of crimping fibrous glass strand, P (4) 87*h*. Method for forming and treating fibers, P (4) 87*h*. Method for producing coated glass fibers, P (3) 59*d*, P (4) 87*g*. Method for producing filamentary material, P (4) 87*a*. Method of producing glass fibers with metal coatings, P (7) 159*a*. Method of providing glass filaments with a coating of silver, P (2) 34*h*. Process for producing cellular insulating materials, P (6) 133*d*. Rotor construction for fiber forming apparatus, P (8) 190*c*. Synthesis of chrysotile, P (7) 168*g*. Treated glass fibers and compositions for use in same, P (10) 231*c*. Treatment of fibrous glass with aqueous emulsions of metals and alloys, P (3) 59*f*.
Owens-Illinois Glass Co. Antimony coating for glass, P (11) 254*h*. Apparatus for applying surface coatings to glassware, P (7) 157*h*. Apparatus for arranging irregularly shaped glass containers, P (7) 157*h*. Apparatus for blanket charging glass batch in a glass furnace, P (3) 57*e*f. Apparatus for delivering mold charges to a forming machine, P (7) 157*i*. Apparatus for guiding mold charges of glass into molds, P (4) 86*a*. Apparatus and method for treating interior surfaces of glass containers, P (11) 255*d*. Banded hollow glass structural unit, P (10) 230*b*. Bearing structure with gastight seal, P (4) 86*g*. Bottle decorating machine and bottle chucking device therefore, P (7) 158*b*. Colored glass frit feeder, P (7) 158*c*. Conveyer apparatus, P (6) 136*b*. Cooling system for glassforming molds, P (7) 158*g*. Electrode for a glassmelting furnace, P (3) 58*c*. Full vision cathode ray tubes, P (3) 58*e*. Furnace for glass feeding and conditioning, P (10) 230*f*. Glass conditioning apparatus, P (4) 86*b*. Glass container inspecting apparatus, P (1) 6*i*. Glass conveying device, P (10) 230*j*. Glass tube and cane gauging and sorting apparatus, P (2) 33*a*. Glassmaking frit and method, P (6) 136*e*. Glassmelting furnace with bubbler patterns, P (4) 86*d*. Glass-to-glass seal, P (8) 189*c*. Glass-to-metal seals in cathode-ray tubes, P (1) 6*j*, P (6) 143*h*. Glassware transfer mechanism, P (2) 33*a*. High speed article transfer apparatus, P (4) 86*e*. Laminated joint for glass parts and method of sealing, P (9) 209*j*. Machine for decorating round surfaces, P (6) 136*h*. Machines for press molding hollow glassware, P (3) 58*g*. Manufacture of colored glass by addition of colorant to flint glass in a feeder, P (6) 136*j*. Means for centering hot glass parisons, P (10) 230*i*. Means of controlling electric currents in a furnace forehearth, P (5) 112*e*. Means for cooling glassforming molds, P (2) 33*g*. Means for neutralizing current in glass withdrawn from electrically heated furnace, P (8) 189*f*. Method and apparatus for controlling convection currents of molten glass, P (1) 6*h*. Method and apparatus for making blown plastic articles, P (3) 59*b*. Method and apparatus for washing glass articles, P (3) 59*c*. Method of applying glassforming metal borates to surfaces, P (5) 112*g*. Method of applying sealing compositions to glass parts, P (3) 66*g*. Method for blanket charging glass batch in a glass furnace, P (4) 87*de*. Method of forming a hollow glass article, P (7) 159*f*. Method of transferring parisons, P (5) 112*b*. Method of treating glass container surfaces, P (7) 159*b*, P (11) 256*g*. Molded articles having molding seams, etc., formed on the base thereof, P (9) 209*g*. Oxidation shield for electric [glass] furnace electrodes, P (8) 190*a*. Plunger removal chuck for insulator press, P (4) 87*e*. Protective coating for decorated glassware and method of application, P (3) 59*h*. Sealing glass parts, P (5) 112*g*. Shipping container for fragile irregularly shaped articles, P (6) 137*c*. Surface decorating apparatus, P (3) 59*e*.
Oyama, T. Studies on used refractories from an open-hearth furnace (VII) X-ray studies of cristobalite in a used silica brick, (11) 250*a*; (VIII) X-ray studies on chrome-magnesia brick used in an open-hearth furnace, (11) 259*c*.
Ozaki, N. "Sê Ch'ing Tai Fên Hung" of the Southern Sung Kuan-yao, (1) 2*e*.
Ozawa, T. See Tsuneyama, G.

Pabcor, Inc. Plastering material, P (8) 186*g*.
Pabst, A. Hydrates of sodium carbonate, a correction, and the crystallography of trona, (3) 75*e*. Structure of leached gillespite, a sheet silicate, (4) 102*d*.
Pacific Clay Products. Method of burning sewer pipe, etc., P (4) 88*b*.
Pacione, A. J. Glass polishing equipment, P (2) 33*j*.
Padfield, R. C. See Kraner, H. M.
Padula, P. C. Metalized ceramics, P (10) 235*c*.
Pagnotti, J. R., and Barron, S. Separation of fine sized solids, P (11) 269*i*.
Paine, R. T., Jr. Note on Korean celadons, (2) 28*a*. See David, P.
Pajenkamp, H., Russ, A., Strassen, H. zur, Meyer, K., and Rausch, H. Process for manufacturing white cement, P (11) 252*e*.
Paladino, A. E. Phase equilibria in the ferrite region of the system FeO–MgO–Fe_2O_3, (5) 116*f*.
Palm, B. A. Wet separator, P (4) 96*d*.
Palmour, H., III, Kriegel, W. W., DuPlessis, J. J., and Harrell, G. O. Selected abstracts on the mechanical behavior of ceramics, (6) 148*g*.
Palumbo, H. J. Porous ceramic plant husbandry equipment, P (10) 231*h*.
Palvio, T. Alkalis and sulfur in a dust injection kiln, (3) 52*h*.
Pampuch, R. Production of high-strength low-porosity refractories, (4) 88*c*.
Pan American Petroleum Corp. Separating illite for geochemical analyses, P (11) 273*a*.
Panda, J. D. See Reich, H. F.
Pangborn Corp. Liquid level control for dust collectors, P (8) 196*f*.
Pankey, T., and Senftle, F. Magnetic susceptibility of natural rutile, anatase, and brookite, (7) 174*f*.
Pankratov, D. I. See Kaminskii, V. K.; Taubin, G. B.
Paone, D. R. See Hall, E. W.
Papaleck, R. J. See Keen, H. J.
Parenti, E. K. See Courtenay, F.
Parham, W. E. Light-burning clay resources in La Salle County, Illinois, (8) 198*h*.
Paris, C. E. Lifting skid pallet, P (4) 99*f*.
Paris, J. M. F. See Fernandez Paris, J. M.
Park, J. K., and Marzocchi, A. Treatment of fibrous glass with aqueous emulsions of metals and alloys, P (3) 59*f*.
Park, R. W. See Covert, K. B.
Parker, C. See Mott, R. A.
Parker, C. J., and Nordberg, M. E., Jr. Infrared transmittance at high temperature using a double-beam spectrophotometer, (3) 56*g*.
Parker, D. W., Jr. See Switzer, J. L.
Parker, H. M., Bullock, B. W., and Dancy, W. H., Jr. Measurements of rotational magnetic losses in ferrites at very low frequencies, (1) 12*i*.
Parker Pen Co. Method and apparatus for forming spheres, P (4) 87*u*.
Parkes, A. G. See Schramm, H. W.
Parkes, W. B. Control of the molding properties of clay-bonded sand by green strength and shatter tests, (1) 8*a*.
Parks, T. B. Glass composition colored by copper and tin, P (7) 158*g*.
Parks, W. J. Screen, P (4) 96*a*. Screen deck structure, P (4) 96*c*. Vibrating screening apparatus, P (7) 165*e*.
Parmele, B. J. Centrifugal pulverizer, P (5) 121*h*.
Parodi, G. P. Refractory material, P (5) 114*c*.
Parr, N. L. Silicon nitride—a new ceramic for high temperature engineering, etc., (10) 234*b*.
Parrish, W., and Lowitzsch, K. Geometry, alignment, and angular calibration of X-ray diffractometers, (5) 119*c*.
Parry, R. H. G. Latent interparticle forces in clays, (3) 75*j*.
Parsons, C. A., & Co., Ltd. Double beam spectrometers, P (9) 222*d*.
Parsons, J. See Watson, J. H. L.
Parsons, J. L., and Milberg, M. E. Vibrational spectra of vitreous $B_2O_3 \cdot xH_2O$, (7) 157*f*.
Parsons, J. R. Radiant wall furnace, P (4) 89*i*.
Parsons, M. F. Basic rotary kiln design for lightweight aggregate, (6) 145*a*.
Parsons and Marine Engineering Turbine Research and Development Assoc. Cylindrical furnaces, P (4) 97*i*.
Partridge, J. H. Creep of refractory materials, (1) 8*b*. See Oldfield, L. F.

Pascal, I. Quantitative mineral analysis with the counter goniometer, (3) 68*j*.
Pask, J. A. See Gorum, A. E.; Hulse, C. O.; Insley, H. A.
Pasotti, F. G. Fire finishing machine for glass articles, P (3) 58*c*.
Pasternak, R. A. Crystallographic evidence for the existence of B_2O, (7) 170*c*.
Patent-Treuhand-Ges. für elektrische Glühlampen m.b.H. Activating material for electrodes in electric discharge devices, P (5) 117*b*.
Paterson, M. S. Melting of calcite in the presence of water and carbon dioxide, (3) 76*b*.
Paterson, M. S., and Wheatley, K. Solubility and heat of wetting of silica powders, (7) 178*i*.
Patla, N. See Kiss, A. B.
Patrichi, M. D. Method of fusing metal to glass articles, P (1) 6*f*.
Patterson, C. M. Mineral Facts and Problems (preprints): Lime and calcium, (7) 167*b*.
Patterson, H. B. Art of dressing grinding wheels, P (11) 249*j*.
Patterson Foundry & Machine Co. Lump breaker for vacuum drier, P (11) 265*j*.
Patterson-Kelley Co., Inc. Blending and heat exchange mill, P (5) 118*e*. Blending mill agitator and additive feed, P (3) 67*i*. Blending mill liquid feed, P (4) 95*b*.
Pattison, J. R. Total emissivity of some refractory materials above 900°C., (3) 61*j*.
Patton, J. C. See Reedes, W.
Patwardhan, D. K. See Kundra, M. C.
Paull, P. L. Ore beneficiation process and apparatus, P (5) 121*b*.
Paulsen, A. L. See Atkinson, F. M.
Pavlov, V. F. Use of the method of twisting the specimen for investigating the viscosity of low melting clays, (1) 15*c*.
Pavlov, V. S. See Stepanenko, M. G.
Pawlek, F. Permanent magnet material, P (7) 164*b*.
Pawlicki, C. D. Method of applying sealing compositions to glass parts, P (3) 66*g*.
Pawlowski, S. Effect of temperature and heating time on the adhesion of dolomite to the sintered hearth of the open-hearth furnace, (1) 8*f*. See Szymborski, W.
Paxton, E. W. Method and apparatus for producing molten silicates, P (2) 33*j*.
Paymal, J., Bonnaud, M., and Le Clerc, P. Radiation dosimeter glasses, (9) 208*b*.
Payne, E. See Dinstone, J. R.
Payne, R. E., and Lavanchy, A. C. Air directing and particle removing structure for particle classifiers, P (10) 239*f*.
Payne, R. E., Lavanchy, A. C., and Sharples, T. D. Particle classifiers, P (10) 239*g*.
Pazukha, P. I. See Tsigler, V. D.
Pearce, B. W. J. "Vibro-Energy" mill, (6) 144*c*.
Pearce, N. Murray printing machine, (9) 213*a*.
Pearl, H. A. How to get the most from sheet metal in high temperature service, (2) 35*f*.
Pearre, N. C. See Glass, J. J.
Pearson, A. D. See Flaschen, S. S.
Pearson, E. P. See Eells, H. P., Jr.
Pease, G. R. See Petryck, L. M.
Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques. Method of preparing activated alumina from commercial alpha-alumina trihydrate, P (4) 100*e*. Pneumatic conveying method and system, P (5) 118*j*. Process for agglomerating aluminum nitride, P (6) 146*i*. Process for preparing dense filterable beryllium hydroxide, P (1) 19*c*.
Pechiney, Compagnie de Produits Chimiques et Electrometallurgiques and Commissariat a l'Energie Atomique. Process and apparatus for producing pure graphite, P (10) 235*b*.
Pecjak, F. A. See Sun, K.-H.
Peck, A. J. See Vries, D. A. de.
Peco, G. Granulometric analysis by centrifugal sedimentation, (4) 96*j*.
Pedko, A. V. See Belov, K. P.
Peel, G. N. See Booth, F. T.
Peeler, C. E., Jr. Chemical composition and process, P (4) 99*g*. See Ilenda, F. P.
Pekerman, F. M. See Kazankin, O. N.
Pellini, W. S., and Harris, W. J., Jr. Flight in the thermosphere (I) material requirements for thermal protection systems, (6) 149*i*; (II–IV), (10) 232*j*.
Pels-Leusden, K. O. Causes of condensation in brick kilns, (5) 112*i*.
Peltola, V. K. Surface contact pyrometers, P (11) 267*g*.
Pelz, H. Device for weighing batches of a granular material, P (5) 118*f*.
Pemco Corp. Method of and apparatus for discharging continuous smelters, P (5) 108*j*.
Penberthy, H. L. Method and apparatus for glass production, P (2) 33*b*.
Penberthy, H. L., Hernley, K. P., and Lohman, H. W. Glass homogenizer, P (3) 58*a*.
Penberthy, L., and Scarfe, F. All-electric melting of glass, (8) 187*i*.
Penberthy Electromelt Co. Glass homogenizer, P (3) 58*a*.
Penicillin-Gesellschaft Dauelsberg & Co. Apparatus for mixing or blending liquid, pulpy, powdery, granular, or fibrous materials, P (1) 14*h*.
Pennell, F. Glass building block unit, P (8) 180*b*.
Pennell, J. D. See Malley, T. J.
Penney, G. W. Gas-cleaning [electrostatic] precipitator, P (11) 265*b*.
Pennsalt Chemicals Corp. Cement composition, P (5) 107*i*. Dielectric materials, P (2) 40*b*.
Pentecost, J. L., Post, Z. A., and Ritt, P. E. 4000°F. laboratory kiln with a unique temperature control system, (5) 120*e*, (7) 166*d*.
Pepinsky, R. See Jona, F.; Maxxi, F.; Shirane, G.
Peplow, D. B. Experiments with a monolithic arch in a stoker-fired water-tube boiler, (10) 232*i*.
Peppard, D. F. Process of separating zirconium values from hafnium values by solvent extraction with an alkyl phosphate, P (5) 149*d*.
Pepper, L. See Buck, A. D.
Peppitt, E. W. See Bray, H. A.
Pequignot, M., and Verna, M. Use of silica seals in the manufacture of special tubes with many lead-in wires, (7) 163*j*.
Péras, L. Manufacture of low-tension sparking plugs for internal combustion engines, P (4) 94*d*, P (10) 230*f*. Method of coating a mold for use in a foundry, P (3) 62*j*. Sliding spark ignition spark plug, P (7) 162*i*.
Pergent, R. C. See Heymes, P. R.
Perloff, A. See Block, S.
Perrenod, C. A. Masking apparatus and method, P (6) 136*a*.
Perrin, T. S., Banner, R. G., and Smith, R. C. Alkali metal aluminates, P (7) 167*e*.
Persiani, P. J. See Breen, R. J.
Pertwee, K. S. G. See Scott, C. J.
Pescheck, C. More prehistoric ceramics of Main-Franken, (9) 203*i*.
Pesic, D., and Gaydon, A. G. Band spectra of magnesium oxide and hydroxide between 4000 and 3600 a.u., (9) 218*j*.
Pessel, L. Method of sintering and nitriding ferrous bodies, P (8) 192*j*.
Peter, O. Shaped bodies of carbon, P (4) 89*j*.
Petermann, K. See Costa, H.
Peters, A. J. See Logan, R. A.
Peters, F. G. See Sinclair, W. R.
Peters, F. I. See Bickford, F. A.
Peters, G. R. Long lip crucible, P (11) 260*b*.
Peters, H., and Wiedemann, H. G. Investigations on the thermal decomposition of calcium oxalate and calcium carbonate by use of a high-precision thermobalance, (5) 125*b*.
Petersen, L. Apparatus for cooling finely divided materials, P (4) 97*g*. Apparatus for cooling hot kiln gases, P (4) 97*g*. Method and apparatus for cooling hot materials by gas, P (3) 69*h*. Rotary drum grinder and plural separator circuit, P (8) 199*g*.
Peterson, C. J., Peterson, C. L., and Mattison, R. J., Jr. Rotary vacuum filter, P (1) 14*h*.
Peterson, C. L. See Peterson, C. J.
Peterson, F. V. Electrical precipitator apparatus of the liquid spray type, P (11) 265*a*.
Peterson, J. A. Process for recovering lithium values, P (7) 168*a*.
Peterson Filters and Engineering Co. Rotary vacuum filter, P (1) 14*h*.
Petitjean, M. See Prettre, M.
Petoshina, L. M. See Kazankin, O. N.
Petryck, L. M., and Pease, G. R. Coated electrode for welding cast iron, P (1) 4*c*.
Pettersson, S. T. L. See Wolff, H. H.
Pettibone Mulliken Corp. Cone crushing mechanism, P (2) 45*e*.
Petzold, A. Enameling clays, (3) 55*i*. Reboiling of enamels, (11) 252*j*.
Petzold, A., and Krüger, M. Comparative tests on the MPI adherence test for sheet enamels, (9) 205*e*.
Pevzner, A. G. See Satanovskii, P. L.
Peychès, I. Apparatus for surfacing glass, P (11) 255*b*. High pressure polishing of flat glass, P (9) 209*i*.
Pfaudler Permutit, Inc. Method for repairing glass coated apparatus, P (5) 109*a*.
Pfeiffer, M. A. Two stage reversible crusher, P (5) 122*j*.
Pfenninger, H. H. Elastic vibrations of quartz plates in stationary electrical fields, (11) 262*i*.
Pfrunder, V. R., and Schwander, H. Quantitative spectrochemical determination of the K and Na content in silicates, particularly cement raw materials, (2) 29*b*.
Pfund, E. T., Jr., Fischer, T., and Montgomery, J. Quartz, silica insulations raise temperature limits of coaxial cables, (4) 92*e*.
Phelps, G. W. Practical particle size analysis of clays (III) log probability data plotting, (7) 162*i*.
Philadelphia Quartz Co. Finely divided metal silicate products, P (11) 262*c*. Improvement relating to the purification of soluble silicates, P (10) 241*g*.
Philco Corp. Method of fabricating semiconductive devices, P (8) 195*f*, P (9) 214*f*. Method of making cathode assemblies and products, P (4) 94*d*.
Phillips, A. J. See Baier, R.
Phillips, D. C. See Arndt, U. W.
Phillips, D. G. Abrasive articles, P (9) 203*e*.
Phillips, J. W., Thomas, D. G. A., and Walton W. H. Apparatus for counting particles, P (11) 266*j*.
Phillips Petroleum Co. Carbon black wet pelleting process and apparatus, P (11) 260*d*. Catalyst and process for the conversion of hydrocarbons, P (1) 18*a*. Composition comprising cement, methyl siliconate salt, and cellulose ether, P (7) 155*a*. Dehydrogenation process and catalyst, P (2) 45*f*. Drier temperature control, P (8) 198*a*. Gypsum cements, P (4) 83*f*. Heat exchange pebbles, P (2) 37*f*. Rotary molding machine and method, P (6) 144*c*. Water spray in pellet mills [for carbon black], P (11) 270*a*.
Photo Ceramics Corp. Reproduction of photographs on ceramics, P (11) 262*b*.
Picalarga, M. Stone-breaking machines, P (6) 147*b*.
Picard, G. Apparatus for the decoration of articles, P (7) 157*i*.
Pichler, E. See White, W. A.
Pickard, H. A., Jr. Designing fine china for Pickard, Inc., (8) 185*h*.
Pierce, W. E. New products for the porcelain enameling industry, (10) 226*h*. Properties of porcelain enamels, (10) 226*g*.
Pierson, A. L., III. Photomultiplier photometer for studying quartz grain orientation, (7) 165*f*.
Pietrzak, J. See Klimowski, J.
Pigott, O. R. See Kennaway, A.
Pigott, P. G., and Tyrrell, M. E. Refractory properties of Alabama bauxitic kaolins, (3) 70*i*.
Pike, R. D. Process of treating ferrotitaniferous materials, P (2) 45*e*.
Pike, R. G. Alkali-aggregate reaction: Pressures developed in cement pastes and mortars by the alkali-aggregate reaction, (4) 82*g*.
Pike, R. G., and Hubbard, D. Alkali-aggregate reaction: Miscellaneous observations on the alkali-aggregate reaction and the ionic charge on hydrated cement, (4) 82*g*. Increased chemical reactivity of the surface compared with that in the bulk volume of Britton-Robinson universal buffers, (2) 46*e*.
Piliego, M. See Lupato, G.
Pilkington, L. A. B., and Bickerstaff, K. Manufacture of flat glass, P (4) 86*i*.
Pilkington Brothers, Ltd. Apparatus for producing a continuous ribbon of glass, P (4) 86*f*. Manufacture of flat glass, P (4) 86*i*. Ring molds for casting glass [telescope] disks, P (9) 210*a*.
Piltz, G. Natural drying sensitivity of brick clays, (5) 112*j*. Possibilities of color influence in brick clays, (10) 231*g*.
Pincus, A. G. Forsterite ceramic bodies, P (5) 117*j*. Glass compositions, P (2) 33*h*. See Insley, H. A.
Pindrik, B. E. See Kalnarskii, I. S.; Tsigler, V. D.
Pinotti, A. D. Furnace for glass feeding and conditioning, P (10) 230*f*. Glass conditioning apparatus, P (4) 86*b*. Method of forming a hollow glass article, P (7) 159*f*.
Piper, W. W. Electroluminescent cell, P (10) 238*a*. Single crystal electroluminescence, P (8) 195*g*.
Pitak, N. V. See Kukolev, G. V.
Pitskhelauri, A. I. Study of the properties of volcanic tuffs for their use in the production of glazed decorative tile, (1) 11*b*.
Pittsburgh Plate Glass Co. Apparatus for the air chilling of bent glass, P (6) 135*g*. Apparatus for bending glass, P (5) 111*c*. Apparatus for glass chip removal, P (4) 85*j*. Apparatus for glass drilling, P (10) 230*a*. Apparatus for laminating, P (10) 230*a*. Apparatus and method for packing pulverulent material, P (11) 268*d*. Apparatus for preparing composite assembly, P (4) 86*c*. Apparatus for supporting a glass sheet, P (6) 136*a*. Apparatus for treating glass, P (5) 111*e*. Bending glass, P (2) 32*c*. Catalyst compositions, P (1) 17*i*. Continuous electroplating apparatus, P (7) 158*c*. Electric gun for glass rolling machine, P (10) 230*e*. Electrical resistor metal coatings on refractory materials, P (3) 63*i*. Fin grinding machine, P (2) 33*d*. Glass bending molds, P (3) 58*f*, P (5) 111*j*, P (7) 158*d*, P (8) 189*g*. Glass composition, P (2) 33*c*/*g*, P (3) 58*i*, P (4) 86*a*, P (9) 209*e*, P (10) 230*h*. Glass pressing nipper rolls, P (1) 6*b*, P (11) 255*b*. Glass stirring mechanism, P (3) 58*b*. Ivory opalescent glasses, P (2) 33*d*. Machine for preparing composite assemblies [of laminated safety glass], P (6) 136*h*. Manufacture of plate glass, P (9) 203*e*. Method and apparatus for feeding batch materials, P (8) 189*f*. Method and apparatus for glass chip removal, P (4) 87*b*. Method and apparatus for surfacing sheet material, P (9) 209*c*. Method of and apparatus for transferring sheet material, P (2) 34*b*. Method of manufacturing [resinous] curved tinted laminated glass interlayers, P (9) 209*g*. Method for pressing laminated glass, P (11) 256*e*. Method of producing transparent electroconductive articles, P (3) 60*e*. Movable table runout and return apparatus, P (2) 34*d*. Ophthalmic glass, P (4) 87*d*. Prepolishing plate glass, P (9) 209*f*. Treating glass sheets, P (10) 231*a*/*d*. Windshield glass, P (7) 159*e*.
Pitzer, E. W. Rotary molding machine and method of molding, P (6) 144*c*.
Pizer, R. S. See Roberts, A. G.
Planje, T. J. Testing program for economic control of efflorescence, (11) 257*i*.
Plankenhorn, W. J. Ceramic coatings fight heat and corrosion, (2) 30*a*.
Plass, G. N. See Stull, V. R.
Platen, H. v., and Winkler, H. G. F. Plasticity and thixotropy of fractionated clay minerals, (5) 126*i*.
Platz, R. See Kerber, H.
Plavén, O. Process and apparatus for separating solids from suspensions of solids in fluids, P (4) 95*j*.
Plessey Co., Ltd. Ceramic material, P (11) 263*e*. Friction members having sintered compositions, P (4) 89*i*. Hygrometer of high sensitivity, P (8) 197*c*. Method of making ceramic dielectric material, P (8) 195*g*. Resistors and resistor materials, P (2) 37*d*.
Plessner, K. W., and West, R. Ceramic dielectric materials, P (5) 117*c*.
Pleydell-Bouverie, K. Preparation of ash for stoneware glazes, (7) 154*a*.
Ploetz, G. L. Ceramic materials for nuclear reactor controls and poison, (9) 210*i*.
Ploetz, G. L., Muccigrosso, A. T., Osika, L. M., and Jacoby, W. R. Dysprosium oxide ceramics, (4) 100*j*.

Plötze, E., Rubin, A., Huckert, G., and Kiefer, J. Viscosimetric investigations on silicate suspensions as a contribution to the theory of adsorption on clay crystallites, (5) 129*f*.

Plueddemann, E. P. Method of treating glass with epoxy-silanes and their epoxy-ammine adducts, P (11) 256*g*.

Plumbo, R. A. Apparatus for forming glass fiber mats, P (7) 157*j*.

Plumer, J. B. Method of and apparatus for discharging continuous smelters, P (5) 108*j*.

Plumer, J. M. Ceramics in the traveling exhibition of masterpieces of Korean art, (2) 27*j*. Note on "spotted temmoku," (4) 82*c*.

Plummer, N., Bauleke, M. P., and Hladik, W. B. Dakota formation refractory clays and silts in Kansas, (8) 191*b*.

Plummer, W. L. See Selby, B. E., Jr.

Plurien, P. See Thien-chi, N.

Pobeguin, T. Study by infrared rays of some concretions and specimens of clay found in caverns, (1) 17*d*.

Pocock, R. C. See Stedman, F. E.

Podschus, E. See Klein, C.

Podschus, E., and Joseph, W. Process of preparing silica sols, P (10) 242*a*.

Pogarskii, N. I. See Minakov, A. G.

Pohl, G. Suitability of limes for the sand-lime brick industry, (3) 54*j*.

Pohlman, W. E., and Jacoby, H. New stockpile measuring method, (2) 44*i*.

Pohlmann, G., and Oberlies, F. Corrosion of glass surfaces by animal tissues, (10) 227*f*.

Polidori, G. C. Majolica of Deruta, (5) 106*a*.

olivka, M., and Brown, E. H. Influence of various factors on sulfate resistance of concretes containing pozzolan, (11) 251*c*.

Pollyak, V. V. See Vilnis, K. K.

Polo, T. de. Mineral Facts and Problems (preprints): Clays, (7) 167*b*.

Polo, T. de, and Brett, B. A. Clays, (6) 145*g*.

Polo, T. de, and Tucker, G. E. Feldspar, nepheline syenite, and aplite, (6) 145*g*. Kyanite and related minerals, (6) 145*h*.

Poluboyarinov, D. N. See Vinogradova, L. V.

Polyak, B. I. Mechanization of brick supply during repair of rotary kilns, (1) 14*d*.

Polytechnic Institute of Brooklyn. Polyelectrolyte water-indicating devices, P (9) 217*g*.

Polzinetti, E. Conveying apparatus for powdered cement, P (11) 251*g*.

Pomerantz, M. A. See Marshall, J. F.

Pommer, A. M. See Muto, T.

Pondy, P. R. See Becker, E. J.; D'Altroy, F. A.

Poole, A. B. Separators for storage batteries, P (4) 91*g*.

Poole, B. Dry pressing and clay block production, (11) 257*g*.

Poole, J. P. Method and apparatus for manufacturing glassware, P (4) 87*c*.

Poor & Co. Corrosion preventing coatings and coating compositions, P (9) 205*g*.

Pope, J. A. Two Chinese porcelains in the Umezawa collection, (2) 28*c*. See David, P.

Popel, S. I. See Nikitin, Yu. P.

Popil'skii, R. Ya. See Vinogradova, L. V.

Popil'skii, R. Ya., and Serova, G. A. Processes in the destruction of highly refractory materials at high temperatures and in changing gaseous atmospheres, (10) 233*h*.

Popova, E. I. See Meltina, V. A.

Porai-Koshits, E. A., and Andreev, N. S. Low-angle X-ray scattering by sodium borosilicate glasses, (7) 156*i*.

Porgess, P. V. K., and Wilman, H. Dependence of friction on surface roughness, (2) 27*e*.

Porter, J. L. Process for preparing calcium aluminate and alumina from phosphate-containing ores, P (3) 72*d*.

Porter, M. W., and Spiller, R. C. Barker Index of Crystals (Vol. 2) Crystals of the Monoclinic System, B (1) 22*h*.

Portolés, J. L. A. Powder camera for X rays, (1) 15*a*.

Portolés, J. L. A., and Serra, J. M. New focusing camera with flat specimen, (1) 15*g*.

Post, D. See Primak, W.

Post, Z. A. See Pentecost, J. L.

Potter, A. Using an electronic computer to reduce weathering data, (2) 30*c*.

Potter, C. Treatment of sand, P (4) 100*f*.

Potter, G. V. See Mathers, J. E.

Poutroie, M. de la, and Lobole, M. Infrared tunnel drier for earthenware or porcelain hollow ware, (5) 120*c*.

Powell, M. J., and Cecil, T. A. Preparation of spherical contact masses, P (1) 19*f*.

Powell, R. J., and Todd, J. Application of the flame photometer and the spectrograph to the analysis of a soda-lime glass, (1) 4*g*.

Powell, R. W. Thermal conductivity of beryllia, (2) 48*d*.

Powers, J. B. Method and apparatus for sorting objects according to color, P (8) 197*c*.

Powers, M. C. Adjustment of clays to chemical change and the concept of the equivalence level, B (9) 223*e*.

Powischill, J. W., Hine, E. W., II, and Howard, G. R. Apparatus for feeding bulk material to plural supply locations, P (7) 164*i*.

Prasad, J. Effect of pore size on the thermal conductivity of heat insulating mica brick, (4) 88*e*. See Bishui, B. M.

Prasad, S. N. See Ram, A.

Prater, J. D. See Christensen, C. C.

Pratique, J. Roller Mills, P (7) 165*d*.

Precision Grinding Wheel Co., Inc. Abrasive articles, P (9) 203*e*.

Preisinger, A. X-ray study of the structure of sepiolite, B (9) 223*d*.

Prendergast, J. R. See Toepfer, W. J.

Pressburg, B. S. See Coates, J.

Presto, V. Ceramic colors and decoration, (6) 140*j*.

Preston, E. Behavior of tank furnaces and their effect on glassmelting rates, (5) 109*g*.

Preston, W. E. See Michael, R. A.

Prettre, M. See Imelik, B.

Prettre, M., Imelik, B., Blanchin, L., and Petitjean, M. Mechanism of formation of adsorptive and catalytically active aluminum oxides, (9) 220*h*.

Pre-Vest, Inc. Investment material for precision casting, P (7) 161*b*.

Price, J. H., and Clayton, J. E. Brick cleaning machine, P (1) 7*g*.

Price, R. Platinum resistance thermometer, (5) 119*h*.

Price, W. L. How to select the proper screening surface, (1) 14*c*.

Priebe, E. L., and McCarthy, J. A. Method of preparing siliceous pigments, P (11) 269*b*.

Priest, D. K., and Levy, A. S. Effect of water content on corrosion of borosilicate glass, (8) 188*c*.

Prill, A., and Brück, R. Magnetic impulse record carriers, P (10) 238*d*.

Primak, W. C-axis electrical conductivity of graphite, (2) 46*d*.

Primak, W., and Fuchs, L. H. Radiation damage to the electrical conductivities of natural graphite crystals, (2) 47*j*.

Primak, W., Fuchs, L. H., and Day, P. P. Radiation damage in diamond and silicon carbide, (2) 47*h*.

Primak, W., and Post, D. Photoelastic constants of vitreous silica and its elastic coefficient of refractive index, (9) 220*a*.

Primak, W., and Szymanski, H. Radiation damage in vitreous silica—annealing of the density changes, (2) 47*b*.

Prince, E. Neutron diffraction observation of heat-treatment in cobalt ferrite, (11) 263*f*.

Pringle, R. W. See Martin, P. W.

Prior, J. R. See Champion, F. C.

Prior, W. L., and Snelson, H. J. Process for steam treating magnesium cement fibrous panels, P (11) 252*c*.

Priscu, J. C. See Love, F. E.

Prismo Safety Corp. Glass compositions, P (10) 230*j*.

Procházka, S., and Hlaváč, J. Instrument for measuring the thermal conductivity of sintered refractories at elevated temperatures, (8) 196*j*.

Proctor, B. A. Strength of acid-etched glass rods, (11) 254*j*.

Proctor, T. M., and Sutton, P. M. Space-charge development in glass, (5) 111*c*.

Proctor & Schwartz, Inc. Apparatus for feeding bulk material to plural supply locations, P (7) 164*i*.

Prod'homme, M. Viscosity variations of glasses as a function of time, (10) 229*h*.

Proett, R. B., Wakefield, D. A., and Lyons, R. W. Guide for curved masonry walls, P (7) 159*h*.

Proshkina, A. I. See Tsaritsyn, M. A.

Protopopescu, A. See Dan, G.

Prue, J. E. See Bates, R. G.

Pryslak, N. E. Method and material for metallizing ceramics, P (1) 13*i*.

Publicker Industries, Inc. Preparation of an oxidation catalyst, P (3) 72*a*.

Pudvin, J. F. Plating method, P (5) 118*b*.

Pugi, K. See Szulc, N. A.

Pulsford, J. M. Low magnification thin section photography, (7) 174*d*.

Pure Oil Co. Isomerization catalysts and process, P (7) 167*i*. Treatment of clayey materials, P (11) 270*a*.

Puri, J. M. Use of ceramic materials for gas turbine blades, (1) 9*h*.

Puriron and Chemicals, Inc. Production of new sulfuric acid from waste pickle liquor, P (11) 252*i*.

Purolator Products, Inc. Sintering of metal elements, P (7) 162*b*.

Pyatikop, P. D. See Karyakin, L. I.

Quartz & Silice S. A. Method of incorporating titanium into selectively transparent silica glass, P (1) 6*f*. Process and apparatus for accelerating crystal growth, P (8) 202*b*.

Quebec, Province of, Department of Mines. Material classification, P (4) 99*i*. Method of producing lithium sulfate from beta spodumene, P (6) 146*g*.

Quebec Iron and Titanium Corp. Pretreatment of ilmenite ore, P (5) 122*c*.

Queensberry, D. Pottery design today, (7) 154*a*.

Quinn, C. E. See Hanysz, E. A.

Raal, F. A. Alleged formation of an intermediate diamond structure on heating (8) 199*i*.

Rabe, G. See Kuntzsch, E.

Rabinovich, M. A., Krivol, M. I., Mikhailov, N. P., and Gurova, M. I. Production of lightweight grog products with a bulk density of 1.0 gm./cm.^{3} at the Snigirevskii refractories plant, (3) 61*e*.

Rabukhin, A. I. See Matveev, M. A.

Rackham, B. Ford collection of Italian majolica, (2) 28*c*.

Radd, F. J., and Oertle, D. H. Strength impairment mechanism of glass in aqueous systems, (4) 85*j*.

Radin, V. V. See Shalkov, K. A.

Radio Corp. of America. Activated alumina dominated phosphors, P (5) 117*a*. Ceramic compositions, P (11) 263*e*. Coated phosphor particles, P (5) 117*e*. Electrodes, P (10) 238*i*. Electroluminescent devices, P (6) 143*f*. Ferrospinel compositions, P (7) 164*g*. Method of making stem assembly for ultrahigh frequency electron tubes, P (10) 238*f*. Method and material for metallizing ceramics, P (1) 13*i*. Method for single crystal growth, P (1) 21*g*. Method of sintering and nitriding ferrous bodies, P (8) 192*j*. Particle counting apparatus, P (5) 119*b*. Storage tube, P (3) 59*c*. Tipoff apparatus for electron tubes, P (9) 210*a*.

Radley, S. A. See Erdman, A. C.

Rado, P. See Murray, P.

Radoslovich, E. W. Structural control of polymorphism in micas, (8) 201*k*.

Raedersheidt, B. See Schmitz-Dumont, O.

Ragona, N. Ceramics of prehistoric Sicily, (6) 131*i*.

Rahn, H. W., and Sindlinger, C. J. Calcination of barium carbonate, P (4) 99*d*.

Raichenko, T. F. See Bron, V. A.

Rains, T. C. See Eschelman, H. C.

Rajagopal, E. S. Statistical theory of particle size distribution in emulsions and suspensions, (5) 128*b*.

Rakowsky, V. Centrifugal method and apparatus for separating solids, P (5) 118*f*.

Ram, A., Bhatye, S. V., and Sharma, K. D. Influence of TiO_2 on the viscosity and surface tension of soda-lime-silica glasses, (9) 207*i*.

Ram, A., Kumar, S., and Nath, P. Magnetic and spectrophotometric studies on glasses containing manganese, (5) 110*j*.

Ram, A., Prasad, S. N., and Vaish, V. K. Development of a process for the manufacture of copper red glass bangles, (5) 109*e*. Development of a process for the manufacture of signal red glass and a study of factors affecting the color (II) copper red glass, (5) 109*i*.

Ram, A., Prasad, S. N., Vaish, V. K., and Varshney, Y. P. Development of a process for the manufacture of signal red glass and a study of factors affecting the color (I) selenium red glass, (5) 109*g*.

Ramachandran, V. S., and Garg, S. P. Differential Thermal Analysis (as Applied to Building Science), B (4) 103*j*.

Ramallo, O. C. See Carballido Ramallo, O.

Ramm, V. M., and Zakgeim, A. Yu. Theory and technology of absorption, (9) 221*i*.

Ramsey, T. H., Jr. Summary of some properties of yttrium iron garnet and study of dislocations observed in an yttrium iron garnet crystal, (1) 13*g*.

Ranby, P. W. Luminescent materials, P (5) 117*c*.

Randall, P. N. See Birkness, H. A.

Randall, T. [Ceramic Educational] Council and ceramic art education, (1) 1*j*.

Ransburg Electro-Coating Corp. Apparatus and methods for electrostatic coating utilizing an inner electrode to substantially reduce the central void of the annular spray pattern, P (7) 165*c*. Method of electrostatically coating by causing coalescence of coating droplets, P (6) 144*b*.

Rao, N. S. G. Ceramic colors, (1) 10*e*. Chrome alumina pink ceramic colors, (1) 10*h*.

Rase, D. E. See Dulin, F. H.

Rashin, G. A. See Davidson, A. M.

Rasor, N. S. See Smith, A. W.

Rasor, N. S., and McClelland, J. D. Thermal property measurements at very high temperatures, (11) 265*c*.

Ratcliffe, E. H. Preliminary measurements to determine the effect of composition on the thermal conductivity of glass, (11) 254*i*. Thermal conductivities of fused and crystalline quartz, (9) 221*j*.

Ratcliffe, S. W. See German, W. L.

Rath, W. See Hecht, A.

Rathenau, G. W. See Stuyts, A. L.

Rathousky, J., and Chvalovský, V. Hydrophobization of glass using methylsilicone resins, methylchlorosilanes, and methylphenylsilicone oils, (10) 228*f*.

Ratliff, G. D., Jr. See Benjamin, I. A.

Rausch, H. See Pajenkamp, H.

Rawe, R. F. Horizontal plane purge for precipitator, P (4) 95*g*.

Rawson, H. See Baynton, P. L.; Denton, E. P.

Ray, E. H. See O'Brien, N. H.

Ray, N. H. Gas chromatography, (1) 19*j*.

Ray Glass, Ltd. Glass needle valve, P (7) 158*i*.

Rayburn, C. C., and Black, J. G., Jr. Module wafer support for electrical components, P (3) 66*i*.

Raymont, W. R. Powder metallurgy, P (11) 261*d*.

Raytheon Co. Control of electron emission in cathode assemblies, P (4) 93*g*. Sonic apparatus for measuring the level of stored materials, P (10) 242*i*.

Reader, L. J. Process for recovery of lithium hydroxide from lithium phosphates, P (8) 199*c*.

Readhead, W. J. Waste-oil burning kiln, (7) 154*b*.

Reay, J. S. S. See Barrer, R. M.

Reboux, J. Drying ceramic products by dielectric loss, (5) 118*d*.

Rebut, P. Observations on methods of concrete vibration, (5) 107*f*.

Recht, H. L. See Gorin, E.

Rechter, H. L. See Bradstreet, S. W.

Reed, L., and Barrett, L. R. Slagging of refractories (I) controlling mechanism in refractory corrosion, (3) 61*f*.

Reed, R. J. See Moore, E. D.

Reeder, W., and Patton, J. C. Method for titrating calcium, P (4) 103*a*.

Rees, W. J. See Ford, W. F.

Reeve, D. H. Preparation of fluorine compounds, P (11) 269*e*.

Reeve, K. D., and Murray, P. Aspects of the BeO–UO_2–ThO_2 system, (11) 270*b*.
Reflectone Electronics, Inc. Abrading device, P (6) 131*g*.
Refractories Institute Palletizing Committee. Recommended Equipment and Procedure for the Palletized Loading and Shipment of Refractory Products, B (2) 50*k*.
Regie Nationale des Usines Renault. Manufacture of low-tension sparking plugs for internal combustion engines, P (4) 94*d*, P (10) 230*f*. Method of coating a mold for use in a foundry, P (3) 62*j*. Sliding spark ignition spark plug, P (7) 162*i*.
Reiberger, R. Majolica—majolica enamel, (5) 105*b*.
Reich, H. F. Testing the volume stability [after-expansion or contraction] of siliceous fire-clay coke-oven blocks, (11) 259*e*.
Reich, H. F., and Kooy, A. A. A. Thermoelectric measurements at high temperature in carbon-tube and carbon-granule electrical resistance furnaces, (6) 145*d*.
Reich, H. F., and Panda, J. D. Investigation of the slagging resistance of refractory brick, (11) 258*f*.
Reichard, T. W. See Spinner, S.
Reichelt, W. Oxide coating, P (3) 66*j*.
Reichelt, W., and Schmeken, H. Coating, P (3) 62*e*.
Reichen, L. E. Use of ion exchange resins in the analysis of rocks and minerals—separation of sodium and potassium, (3) 78*f*.
Reid, R. J., and Gross, W. M. Thermocouple element, P (4) 97*b*.
Reiffel, L. Apparatus for X-ray fluorescence analysis, P (7) 165*i*.
Reiner, M. Deformation, Strain and Flow—Elementary Introduction to Rheology, B (11) 273*g*. Flow of matter, (9) 219*h*.
Reinhardt, G. Behavior of forsterite, magnesite, and chrome-magnesite brick under reducing conditions and in contact with ferruginous slags, (11) 258*c*.
Reinhart, F. Sintered magnesia and sintered magnesia brick, (2) 36*j*.
Reinsdorf, S. Effect of the clinker minerals of Portland cement on the properties of steam-treated concretes, (3) 53*f*.
Reinsmith, G. Nuclear radiation effects on materials, (8) 201*f*.
Reintjes, G. P. Metal encased [cantilevered] basic refractories, P (7) 161*e*.
Reiter, F. Process for making spark plugs, P (2) 39*b*.
Reitmeier, R. E. Catalyst manufacture, P (4) 99*f*.
Remeika, J. P. $GaFeO_3$—a ferromagnetic-piezoelectric compound, (9) 214*a*. See Anderson, J. R.
Remmington, T. A., and Whytlaw-Gray, R. Adsorption on surfaces of vitreous silica of known geometric area, (8) 199*h*.
Renner, T. Preparation of the nitrides of boron, aluminum, gallium, and indium by the wire growth method, (5) 126*e*.
Research Corp. Apparatus for collecting magnetic susceptible material, P (2) 41*g*. Apparatus for X-ray fluorescence analysis, P (7) 165*i*.
Reuss, G. O. Highlights of ceramics—Chinese, Korean, Japanese, Babylonian, and Persian, (6) 131*j*.
Reuter, B., and Jaskowsky, J. LiV_2O_3–MgV_2O_4, a new spinel system with valency semiconductor properties, (7) 163*d*.
Reuter, R. Metal casting molds, P (11) 260*d*. Siliceous casting cores, P (11) 261*e*.
Reuter, R., and Tozyldo, A. J. Process of concentrating aqueous silica sols, P (8) 199*f*.
Revere Camera Co. Method and apparatus for manufacturing precision lenses, P (8) 189*i*.
Rex, H. B. Printed transformer, P (4) 94*a*.
Rey, M. See Bollack, R.
Reynolds, D. C., and Czyzak, S. J. Apparatus for growing crystals, P (3) 79*f*. Growth of crystals [CdS or ZnS], P (11) 273*d*.
Reynolds, K. W., and Terez, C. S. Lamp transfer apparatus, P (2) 33*e*.
Reynolds, R. C., Jr. Separating illite for geochemical analyses, P (11) 273*a*.
Reynolds, W. Oxides and architectural colors, (5) 108*i*.
Reynolds Metals Co. Process for the manufacture of cryolite, P (7) 168*d*.
Rheinboldt, W. C., and Menard, J. P. Mechanized conversion of colorimetric data to Munsell renotations, (11) 266*g*.
Rheinstein, A. Setting shoe for hollow structural [tile] wall panel, P (7) 160*a*.
Rhodes, C. C., Janson, M. H., and Brown, M. G. Reflectance tests for concrete curing materials, (11) 251*i*.
Rhodes, D. Pottery design, (1) 2*b*.
Riblett, E. W. See Burton, W. P.
Ricciuti, R. World survey of abrasive products, 1957–58, (6) 185*f*.
Rice, H. Memory spraying equipment, (6) 133*i*.
Rice, J. M. Device and method for exfoliating and blending asbestos fiber, P (4) 99*a*.
Rice, R. V., and Cohen, A. J. New method for orienting electron microscope replicas applied to twinned quartz, (3) 76*e*.
Rich, D. C., Archer, J. E., and Harrison, G. R. Method and apparatus for surfacing sheet material, P (9) 209*e*.
Richards, J. J. Method of marking graduated glass clinical thermometers, P (8) 190*b*.
Richards, R. Dry pan investigations using a small-sample technique, (3) 67*d*. See Dinnie, A.
Richards, R., and Dinnie, A. Dry pan investigations (II) effect of pan speed and feeding arrangements on output, (9) 215*f*.
Richards, R. G., and White, J. Phase relations of iron oxide containing spinels (I) relations in the system Fe–Al–O, (7) 176*a*; (II) relations in the systems Fe–Cr–O, Fe–Mg–O, Fe–Al–Cr–O, and Fe–Al–Cr–Mg–O, (7) 176*e*.
Richardson, C. D. See Wolff, G. M.
Richardson, D. A. See Barker, R. S.
Richardson, H. M. See Davis, W. R.; McClimont, W.; McLaren, J. R.
Richardson, H. M., Ball, F., and Rigby, G. R Preparation and properties of vanadium spinels, (6) 148*c*.
Richardson, J. H. Feats of clay, (10) 246*a*. See Andres, F. H.
Richardson, L. D. Ceramics in aviation, (9) 222*e*.
Richardson, R. E. Glass bending molds, P (3) 58*f*, P (5) 111*j*. Glass pressing nipper rolls, P (1) 6*b*, P (11) 255*b*. Method of manufacturing [resinous] curved tinted laminated glass interlayers, P (9) 209*g*.
Richmond, J. C. Revision of Commercial Standard CS115–44 for porcelain enameled hot-water tanks, (2) 30*h*.
Richmond, J. C., and Stewart, J. E. Spectral emittance of ceramic-coated and uncoated specimens of Inconel and stainless steel, (1) 3*i*.
Richter, H., Breitling, G., and Herre, F. Vitreous silica, (9) 221*i*.
Richter, H., and Johansson, S. Complete spectrometric analysis of silicate raw materials and bodies, (9) 216*g*.
Richter, W. Manufacture and use of ladle brick and lining material from sand-containing clays, (2) 35*j*.
Ricker, R. W. Castable refractory, P (4) 80*f*.
Rickmann, F. Determination of the fineness of grinding of enamels, (3) 55*h*.
Riedel, R. Difficulties with tunnel kiln car tops, (2) 43*j*.
Ries, H. B. Manufacture of ferrite bodies, (3) 65*d*.
Riesenberg, W. P. See Hoopes, H. P.
Rigby, G. R. Some observations on the mechanical properties of ceramic materials, (7) 182*e*. See Davis, W. R.; Richardson, H. M.; White, R. P.
Riley, W. C. See Smalley, A. K.
Rimbach, H. W. Magnesium-calcium fluorophosphate, P (6) 136*i*.
Rimmer, R. See Barker, R. S.
Rimshaw, S. J. Method for the recovery of cesium values, P (7) 182*a*.
Rindlisbacher, E. See Hübner, W. W. G.
Rindone, G. E. Glass compositions, P (10) 230*j*. High dielectric constant glass, P (3) 58*c*. See Smith, G. S.
Rinehart, D. W. Electrical resistor metal coatings on refractory materials, P (3) 65*i*.
Ringwood, A. F., and Chessin, N. Glass-metal bond in optical device withstands liquid oxygen, (1) 4*i*.
Ripco, Inc. Feed apparatus for granular material, P (5) 118*g*.
Riskin, V. Ya., and Goncharov, V. V. Research on the pressing of refractories at high temperatures, (9) 211*a*.
Ritchey, B. B. Electronic "hound" prevents hot spot damage to kiln, (4) 82*i*.
Ritchie, T. Influence of silicone pretreatment and wetting of brick on moisture penetration of brick masonry, (11) 257*j*.
Ritt, P. E. See Pentecost, J. L.
Ritter, H. S. Silica precipitation method, P (6) 147*c*.
Ritzmann, H. See Wolf, F.
Riverside Tool & Die Co. Brick handling machine, P (7) 159*gh*.
Rizzo, H. F., and Bidwell, L. R. Formation and structure of SiB_4, (11) 258*e*.
Rizzo, H. F., Weber, B. C., and Schwartz, M. A. Refractory compositions based on silicon-boron-oxygen reactions, (11) 259*e*.
Roast, C. A. See Broom, W. E. J.
Roberts, A. G., Crouse, W. A., and Pizer, R. S. Apparatus for measuring abrasion resistance, P (3) 68*i*.
Roberts, A. L. Elasticity-temperature relationships in refractories, (1) 8*g*. Infrared radiation drying of ceramic ware, (5) 120*b*. See Chaklader, A. C. D.; Howard, P.; Worrall, W. E.
Roberts, B. W. See Doremus, R. H.
Roberts, E. W. Preparing polished surfaces for microscopic examination in reflected light (I) preparation of laps, (7) 177*d*; (Ii) carrier for automatic polishing, (7) 177*e*.
Roberts, E. W., and Vassiliou, B. E. Carbon deposits from the thermal decomposition of town gas, (3) 69*a*.
Roberts, F. F. W. See Young, J. Z.
Roberts, J. P. See Hutchings, J.; Jackman, E. A.; Thompson, D. S.
Roberts, R. F., Jr. Process of precipitating alumina hydrate from a pregnant caustic aluminate liquor, P (9) 218*d*.
Roberts, R. W., Jr. See Masters, J. I.
Robertshaw-Fulton Controls Co. Device for indicating or controlling the atmosphere in a furnace, P (6) 145*d*.
Robertson, H. H., Co. Enameled aluminum products, P (8) 187*b*.
Robertson, L. F. Straight-line inspection method for glass containers, (8) 188*c*.
Robertson, R. H. S. See Brough, J.
Robillard, J. J. A. Electrodynamic spectrograph, P (9) 222*a*.
Robinette, S. L., Jr., and Dotson, C. L. Apparatus for testing metals and test specimen for use therein, P (5) 119*d*.
Robinson, G. C. Clay bonded block, (11) 257*d*. Structural clay products, P (10) 231*i*.
Robinson, G. P., Jr. See Hutchins, S. F.
Robinson, H. J. See Becker, E. J.
Robinson, J. S. Economics of mechanization in brickworks, (1) 7*g*.
Robinson, P. High dielectric constant ceramics, P (9) 214*b*.
Robotron Corp. Inspection device for detecting differences in two objects, P (1) 14*e*.
Robson, J. T. Apparatus for regulating the operation of a tunnel kiln, P (6) 145*a*.
Rocha, N. S., and Baptista, A. X-ray powder data of synthetic iriginite, (5) 129*c*.
Rochow, W. F., and Brashares, C. A. Refractories for aluminum and copper production, (5) 113*i*.
Rockafellow, S. C. Inspection device for detecting differences in two objects, P (1) 14*e*.
Rodd, J. W. See Bisceglia, D. T.
Rodgers, E. P. See Murray, P.
Rodman, N. H. A. Apparatus for concentrating ores, P (8) 198*c*.
Rodrigue, G. P., Meyer, H., and Jones, R. V. Resonance measurements in magnetic garnets, (9) 214*h*.
Roe, L. A. See Eisen, J. B.
Röber, H., and Schicker, G. Pneumatic raw meal homogenization in the cement industry, (2) 29*b*.
Roeber, H. W. Bulb to mount assembly, preheater and transfer device, P (10) 230*c*. Mica press ram with hydraulically operated punch and stripper means, P (4) 94*j*.
Röbert, S. Strength, hardness, and gross weight of solid building brick, (1) 15*b*.
Röchling'sche Eisen- und Stahlwerke G.m.b.H. Process and apparatus for heating a cross stream shaft furnace for the calcination of limestone, P (11) 252*c*.
Röhling, F. Experiences with an oil heated tunnel kiln firing floor tile, (9) 217*c*.
Roelen, O. See Schaub, F.
Roemer, F. K. Feeding chute for metal powder rolling mill, P (5) 121*i*.
Rötger, H. Calculation of the time for the establishment of equilibrium of density and viscosity in Jena standard glass 16^{III} in the transformation range, (10) 227*i*. Recent knowledge on the relaxation behavior of glasses, (10) 229*b*. Scientific cooperation between Jena University and the Jenaer Glaswerk Schott & Gen., (3) 79*b*.
Rofuss N.V. Method of preparing synthetic anhydrite, P (9) 205*b*.
Rogers, G. See Danner, J. D.
Rogers, H. J. Impact crushing machine, P (1) 18*b*.
Rogers, L. J. See Spracklen, S. B.
Rohlfs, H. A. See Huber, H.
Rohn, W. C. Gas analysis crucible, P (8) 192*e*.
Rolfe, B. N., Miller, R. F., and McQueen, I. S. Dispersion characteristics of montmorillonite, kaolinite, and illite clays in waters of varying quality and their control with phosphate dispersants, (11) 268*c*.
Rollman, H. E., and Eng, H. Sources of refractory raw materials and refractories markets in south central United States, (10) 234*g*.
Rolls-Royce, Ltd. Precision casting, P (8) 193*e*.
Roloff, R. C. See Haigh, J. T.
Romanchenko, K. G. See Taubin, G. B.
Rooksby, H. P. Investigation of ancient opal glasses with special reference to the Portland vase, (6) 131*i*. Symposium on properties of nonstoichiometric compounds: Structure changes in some nonstoichiometric oxides of the transition elements, (7) 180*e*.
Root, H. D. See Carlson, W. G.; Grekila, R. B.
Roper, G. W. Dust collector and element for use in it, P (8) 196*h*.
Rose, H. E., and Sullivan, R. M. E. Rapid estimation of the specific surface of a powder, (7) 178*d*.
Roselt, A. Chinese porcelains in the castle at Arnstadt (Thuringia, Germany), (6) 131*j*.
Rosen, J. M. See Saltzman, A. R.
Rosenkrands, B. See Jönsson, B.
Rosenqvist, I. T. See Moum, J.
Rosenqvist, P. O., and Forssén, Z. E. Liners for ball and tube mills, P (11) 265*h*.
Rosinski, E. J. Preparation of phosphate-containing alumina gels, P (10) 242*i*.
Ross, H. G., and Schuler, F. W. Method of producing a photograph in glass, P (2) 34*a*.
Ross, H. N. Relative humidity measuring apparatus, P (4) 97*a*.
Ross, M., and Christ, C. L. Mineralogical applications of electron diffraction (I) theory and techniques, (3) 76*f*.
Ross-Tacony Crucible Co. Long lip crucible, P (11) 260*b*.
Rosset, A. J. de. See Watkins, C. H.
Rossi, A. Apparatus for manufacturing ceramic tile, P (5) 115*g*.
Rossol, S. New method for dissolving aluminosilicates, (7) 175*h*.
Roth, R. S. See Fang, P. H.; Schneider, S. J.
Roth, R. S., and Levin, E. M. Phase equilibria in the subsystem barium disilicate-dibarium trisilicate, (2) 47*f*.
Roth, W. L. Nature of defects in the magnetic structure of wüstite, (1) 12*j*. See Carter, R. E.
Rothe, W. Modern methods for controlling glass quality and the dimensions of hollow glassware (I–IV), (5) 110*e*.
Rotter, H.-W. Method for producing mica pulp, P (4) 100*a*. See Keuth, H.
Rottgardt, J. Process of making transparent luminescent screens, P (2) 34*f*.

Rouban, B. Semiautomatic weight makeup device for weighing pulverulent or fine granulous products, P (7) 168*f*.
Rough, R. R. Electrode for a glassmelting furnace, P (3) 58*c*.
Roup, R. R., Hitzeman, R. L., Taylor, H. U., and Beard, C. L. Nonreactive refractory, P (3) 62*d*.
Roush, P. A. See Glover, W. S.
Routsis, K. See Kardas, R. S.
Roy, D. M. Studies in the system CaO–Al_2O_3–SiO_2–H_2O (IV) phase equilibria in the high lime portion of the system CaO–SiO_2–H_2O, (4) 102*h*.
Roy, R. See Aramaki, S.; Buckner, D. A.; DeVries, R. C.; Hill, V. G.; Mumpton, F. A.; Nelson, B. W.; Shafer, M. W.
Roy, S. Variation in etch behavior of jacobsite with different cell dimensions, (3) 79*a*.
Roy, S. B. Delayed crazing of Indian tile, (1) 10*f*. Properties of Indian glazed wall tile, (1) 11*c*. Suitability of Indian talcs for high frequency insulators, (1) 11*c*. See Dhar, R. N.; Mandal, S. S.
Roy, V. A. Ceramics—Illustrated Guide to Creating and Enjoying Pottery, B (10) 246*g*.
Royston, M. G. See Glenny, E.
Royston, M. G., and Barrett, L. R. Some observations on thermal shock theory, (11) 271*j*.
Rubens, S. M. Method of treating magnetic material, P (1) 13*j*.
Rubin, A. See Plötze, E.
Rubin, G. K., Gutman, M. B., and Glebov, S. V. Test on the use of ultralightweight refractories in electric resistance kilns, (8) 192*f*.
Rubisch, O. See Fitzer, E.
Ruckelshaus, J. G., and Eaton, R. D. Formation of hard metallic films, P (4) 99*c*.
Ruddlesden, S. N. Stability of two crystal forms of silica, (6) 148*h*.
Rudness, R. G., and Kebler, R. W. Growth of single crystals of incongruently melting yttrium iron garnet by flame fusion process, (2) 46*i*.
Rudolph, J. Activating material for electrodes in electric discharge devices, P (5) 117*b*.
Rüdorff, W., and Landel, A. Incorporation of gallium chloride and indium chloride in graphite, (5) 125*h*.
Rüdorff, W., and Menzer, W. Magnetochemistry of uranium(V) compounds, (1) 20*f*.
Rüdorff, W., Walter, G., and Stadler, J. Magnetic properties, electrical conductivity, and reflection spectra of vanadium dioxide and vanadium dioxide-titanium dioxide solid solutions, (5) 125*d*.
Rueger, E. A. Apparatus for measuring the humidity of gases, P (8) 197*b*.
Ruff, H. Resonance screens in quarries, (6) 146*d*.
Ruff, R. O. See Mayhew, R. W.
Ruhrchemie A.-G. Drying of divided solid materials, P (4) 95*c*.
Ruhrchemie A.-G. and Steinkohlen- Elektrizität Akt.-Ges. Double skeleton catalyst electrode, P (7) 161*j*.
Ruiz Amil, A., and MacEwan, D. M. C. Interlamellar sorption of mixed liquids by montmorillonite—the system montmorillonite–water–acetone–NaCl, (5) 125*h*.
Rulon, R. M. See Butler, K. H.
Rulon, R. M., and Drew, W. H. Curved electroluminescent lamp, P (1) 6*g*.
Rupprecht, J. Photoelectric properties of Ti and Nb oxide films produced by anodic oxidation, (7) 165*c*.
Rusciano, F. A., and Ness, H. J. Apparatus for producing controlled furnace atmospheres, P (8) 197*i*.
Ruse, R. L. See Bolton, W. M.
Rush, D. Charge preweighing device, P (5) 118*f*.
Ruskin, S. L. Irradiated concrete compositions, P (5) 107*j*. Metalloceramic preparations, P (10) 241*a*.
Russ, A. See Pajenkamp, H.
Russell, E. D. B. Kilns for firing articles of clay or brick earth, P (10) 231*h*.
Russell, R. G. Apparatus for production of glass fibers, P (3) 57*j*. Method for attenuating and treating glass fibers, P (5) 112*h*. Method for producing coated glass fibers, P (3) 59*d*, P (4) 87*g*.
Russell, R. G., and Deneisbeck, D. Apparatus for feeding and conveying molten glass, P (3) 57*i*.
Russum, G. R. Mixing apparatus, P (2) 42*f*.
Rustom, M. See Brindley, G. W.
Rutman, D. S. More on refractories for the refining zone of rotary kilns, (2) 43*j*. See Vinogradova, L. V.
Ruyter, J.-L. See Fastabend, H.
Ryan, W., and Worrall, W. E. Role of anions in the deflocculation of clays, (11) 271*c*.
Rybnikov, V. A. Possibility of using Nev'yansk kaolins with low sintering temperatures, (1) 17*j*. Properties of magnesite and high-alumina refractories, (3) 61*a*.
Ryder, J. F. Testing the working properties of mortars, (9) 204*e*.
Ryder, S. E. A. Chipping, (8) 186*h*.
Rynders, G. F. See Van Valkenburg, A.
Ryschkewitsch, E. I. Stabilization of zirconia, P (5) 114*g*.
Ryskin, Ya. I. See Kolesova, V. A.

Saalfeld, H. Transformation of α-Al_2O_3 by cryolite-like substances, (5) 129*c*.
Saalfeld, H., and Jagodzinski, H. Unmixing in Al_2O_3-supersaturated Mg-Al spinels, (10) 245*g*.
Sabot, J. Laterites, (10) 241*b*.
Sabotka, C. W. See Barcikowski, W. W.
Saburi, O. Properties of semiconductive barium titanates, (2) 40*h*.
Sack, W. Method of producing structural parts of a combination of glass and plastics, P (3) 59*e*.
Safetee Glass Co. Method of silvering mirrors, P (2) 34*c*.
Safronenko, S. A. See Kulik, A. I.
Saha, P. Geochemical and X-ray investigation of natural and synthetic analcites, (3) 74*j*.
Sahama, T. G. Detection of zoning in orthorhombic and uniaxial colorless minerals, (7) 171*h*.
Sahama, T. G., and Hytönen, K. Calcium-bearing magnesium-iron olivines, (3) 73*d*.
St. Pierre, P. D. S. Internally wound platinum-rhodium furnace for use in air up to 1900°C., (7) 166*d*.
Saito, C., Ohara, I., and Iwabuchi, T. Freezing and thawing resistance of air-entrained concrete made with Portland blast-furnace slag cement, (2) 28*f*.
Saito, S. Analysis of heat conduction (II) numerical solution one-dimensional transient heat conduction in a furnace wall of varying thermal diffusivity as a positional function, (5) 120*a*. See Kawashima, C.
Sakagami, R., and Matsushita, Y. Construction and behavior of constituents in the molten slag of the fundamental system, (7) 170*b*.
Sakaguchi, M. Growth process of precipitated calcium carbonate crystals, (7) 173*c*.
Sakai, S. See Yamada, K.
Sakai, T. See Tanaka, T.
Sakka, S. See Tashiro, M.
Saksena, B. D. Infrared absorption spectra of α-quartz between 4 and 15μ, (1) 20*c*.
Salganik, L. D. See Kulik, A. I.
Salmon, O. N., and Marcus, L. Note on sublimation of lithium from Li-Ni ferrite, (11) 263*g*.
Salo, J. See Lemmers, E.
Saltzman, A. R., and Rosen, J. M. Electromagnetic wave energy absorbing material, P (6) 143*f*.
Sampson, F. W. See Shaw, A. R.
Sanada, Y., and Miyazawa, K. Stabilized dolomite clinker, (7) 154*i*.
Sánchez, L. G. See Gascó Sánchez, L.
Sánchez Conde, C. See Aleixandre Ferrandis, V.
Sánchez Conde, M. del C., and Jumpertz, E. A. Quantitative X-ray analysis of mixtures of silica modifications, (8) 191*h*.
Sand, L. B. See Ames, L. L.; Ehlmann, A. J.; Weintraub, J.
Sand, L. B., and Ames, L. L. Stability and decomposition products of hectorite, B (9) 223*i*.
Sand, L. B., and Baur, G. S. Genesis of kaolinite in Cretaceous shales of central Colorado, B (9) 223*i*.
Sandell, E. B. See Kolthoff, I. M.
Sanders, R. W. See Huffadine, J. B.
Sandford, F. Frost tests on brick, (7) 150*j*.
Sandholdt, P. G. See Landry, J. L.
Sandmeyer, K. H. Fused cast refractory articles and method of making them, P (5) 114*g*. Fused cast zirconia-alumina articles, P (3) 62*h*. Quality in fusion-cast refractories for the glass industry, (7) 160*g*.
Sands, D. E. See Cline, C. F.
Sandvikens Jernverks Aktiebolag. Sintered hard metal alloy, P (1) 10*c*, P (7) 162*a*.
Sano, S. See Hirai, M.; Ishii, E.; Sugiura, M.
Sano, S., Sugiura, M., Ishii, E., and Hirai, M. Synthetic diopside porcelain as a high frequency insulator (IV) effects of several rare element oxides, (3) 64*a*; (V) effects of manganese dioxide, (3) 64*c*.
Santelli, T. R., and Erard, T. G. Antimony coating for glass, P (11) 254*h*.
Santen, J. G. van, and Joormann, H. J. M. Photoconductive device, P (9) 209*h*.
Santos, P. de S. See Souza Santos, P. de.
Santschi, J. V. Apparatus for glass drilling, P (10) 230*a*.
Saparov, V. V. See Strelov, K. K.
Sarver, J. F., and Hummel, F. A. Alpha to beta transition in germania quartz and a pressure-temperature diagram for GeO_2, (7) 169*b*.
Sasaki, T. See Watanabe, K.
Sasaki, Y., and Hamada, T. Process of making manganese-zinc ferrite, P (7) 164*d*.
Sastry, B. S. R., and Hummel, F. A. Studies in lithium oxide systems (VII) Li_2O–B_2O_3–SiO_2, (2) 48*c*.
Sasvári, K. See Hegedüs, A. J.
Sata, T., and Kiyoura, R. Fabrication of cermets of the system alumina–chromium by hot pressing, (6) 138*i*.
Satanovskii, P. L., and Pevzner, A. G. Increasing the efficiency of gas chambers in Dinas brick kilns, (3) 69*i*.
Sato, S. See Oki, S.
Sato, T. Dehydration of alumina trihydrate, (7) 170*j*.
Sattler, F. A., and Trunzo, F. F. Selecting a magnet wire enamel, (4) 83*j*.
Saubestre, E. B. Manufacture of semiconductive translating devices, P (9) 214*c*.
Sauer, H. A., and Fisher, J. R. Processing of positive temperature coefficient thermistors, (7) 163*d*.
Sauer, H. A., and Flaschen, S. S. Choice of electrodes in study and use of ceramic semiconducting oxides, (8) 194*g*.
Saunders, A. C. Refractory articles, P (10) 235*f*.
Saunders, A. E. See Marini, H. R.
Saunders, J. B. New method of measuring gauge blocks, (11) 266*i*.
Saunders, J. H. See Sirvetz, M. H.
Saunders, S. G., and Holcomb, J. A. Structural panel construction, P (4) 84*a*.
Saussol, F. Method of preparing activated alumina from commercial alpha-alumina trihydrate, P (4) 100*c*.
Savage, G. Eighteenth-Century German Porcelain, B (1) 22*g*.
Savage, R. H. Wear of graphite surfaces by punching and planing, (3) 79*f*.
Saw, P. D. Apparatus for detecting flaws in protective coatings, P (5) 119*c*.
Sawada, S. See Ishikawa, Y.
Sawai, I., Kunugi, M., Takahashi, K., and Higashi C. Fundamental studies on characteristics of convection currents of molten glass by the model technique, (10) 227*j*.
Sawamoto, K. See Yamaka, E.
Saxe, W. E. Vibrating screen, P (4) 96*d*.
Saxonburg Ceramics. End seal for electrical heating elements, P (4) 93*b*.
Sayre & Fisher Co. Sintering apparatus, P (1) 16*i*.
Scarfe, F. See Penberthy, L.
Schaap, W. B. Recovery of uranium values from residues, P (1) 19*f*.
Schaefer, E. F. Method of treating glass container surfaces, P (7) 159*b*. Protective coating for decorated glassware and method of application, P (3) 59*h*. See Bivens, P. E.
Schaefer, V. J. Method of depositing a silver film, P (7) 164*a*.
Schafer, H. N. S. See Costick, R. J.
Schaffer, A. See Duclos, D. P.
Schall, P., Jr. See Barrett, R. E.
Schaner, B. E. Fabrication of high-density UO_2 fuel platelets, (1) 8*f*.
Scharf, R. See Lassner, E.
Scharrer, E. See Hofmann, U.
Scharrer, E., and Hofmann, U. Plasticity of clays and kaolins, (6) 148*a*.
Schattler, W. A., and Stallard, R. M. Process and apparatus for dielectric heating, P (6) 143*c*.
Schaub, F., Hoffman, W. von, Roelen, O., and Drope, W. Drying of divided solid materials, P (4) 95*c*.
Scheel, L. Ceramics of Wolfgang Henze, (3) 52*c*.
Scheibe, W. See Justi, E.
Scheidig, H. See Grüber, H.
Schelinski, S. Suggestion for the evaluation of dilatometer measurements on glasses, (3) 57*j*.
Schepers, B. See Hoppe, R.
Schermer, E. B. See Irland, M. J.
Scheuplein, R., and Gibbs, P. Surface structure in corundum (I) etching of dislocations, (10) 245*i*.
Schicker, G. See Röber, H.
Schiefferle, J. A. See Tolly, D. B.
Schifferli, L. M., Jr. Slip casting, (4) 88*h*.
Schildhauer, W. E., and Skuza, M. Process for producing silicon carbide bodies, P (3) 62*h*.
Schindler, H. D. See Malley, T. J.
Schjelderup, G., and Aasbö, L. J. Electrode installation for electric furnaces, P (3) 69*g*.
Schlegel, W. Developments in the automation of ceramic tile manufacture, (8) 193*g*. Way to automation, (8) 196*c*.
Schleicher, W. F. See Lewis, K. B.
Schlitz, Jos., Brewing Co. Glass composition colored by copper and tin and method of manufacture, P (7) 158*g*.
Schlosser, H. New developments in oil burners, (9) 217*e*.
Schlough, L. H., and Schlough, W. E. Apparatus for splitting stone slabs, etc., P (4) 99*a*.
Schlough, W. E. See Schlough, L. H.
Schlünz, F.-K. Hydrophobic cements, (6) 133*g*.
Schmahl, N. G. Change in the reducibility of metal compounds by the addition of metals or metal compounds, (9) 219*f*.
Schmeckenbecher, A. See Juza, R.
Schmeckenbecher, A. F. Production of magnetic iron particles, P (10) 242*c*.
Schmeken, H. See Reichelt, W.
Schmeling, F. Interesting raw material deposits of rocks and minerals in South Africa, (8) 198*e*.
Schmid, M. Hydraulically operated [high temperature] presses, P (11) 265*g*.
Schmidl, B. Process of recovering cryolite from waste gases, P (8) 199*c*.
Schmidt, B. J. M., and Olsson, K. G. Plaster composition, P (3) 55*d*.
Schmidt, T., and Wünning, J. Apparatus for measuring the carbon level of furnace gases, P (9) 217*d*.
Schmidt, Wilhelm. See Schmidt, Wolfgang.
Schmidt, Wolfgang, Köhler, E., and Schmidt, Wilhelm. Determination of alkali in corundum by flame spectrometry, (2) 42*g*.
Schmidt-Reuther, G. Ceramic sculpture in building, (9) 203*h*.
Schmitz-Dumont, O., and Raederscheidt, B. Color and constitution of inorganic compounds, (8) 194*h*.
Schneider, E. B. Method of heat-treating metals employing an oxidation scale inhibitor, P (1) 4*b*.
Schneider, G., and Boettcher, A. Tungsten–rhenium thermocouples, P (11) 267*h*.
Schneider, H. Casting mold and method of casting carbon-containing alloys, P (11) 260*d*.
Schneider, M. See Boehm, H. P.
Schneider, R. E. Production of alkaline earth metal silicates, P (3) 72*a*.
Schneider, S. J. See Diamond, J. J.
Schneider, S. J., and Roth, R. S. Perovskite-type compounds in binary rare earth oxide systems, (3) 77*b*.
Schneiter, H. J. See Stewart, B. O.
Schnitzer, W. A. Simple MgO determination in dolomitic limes, (2) 29*e*.
Schob, F. O. Brick press batch distributor, P (3) 68*a*.
Schön, M., and Welker, H. (editors). Semiconductors and Phosphors, B (1) 25*c*.

Schönborn, H. Structure and properties of phosphate opal glasses, (9) 208*i*.
Schoenfelder, H., and Ginsberg, H. Method for reducing the silica content of alumina-containing materials of the bauxite type, P (10) 242*d*. Method for reducing the silica content of alumina-containing materials of the clay type, P (10) 242*b*.
Schoenoff, W. P., and Vargo, P. Electric lamp making apparatus, P (5) 111*i*.
Scholl, F. Methods for the determination of grain structure of brick clays, (5) 112*j*.
Scholz, W. See Naeser, G.
Scholze, H. Differentiation of H_2O molecules and OH groups in glasses and minerals, (10) 227*i*. Water in the glass structure, (9) 208*g*.
Schoonover, P. L. Rotary kiln construction, P (6) 133*e*.
Schott, E. Contributions to Applied Glass Research, B (6) 150*d*.
Schott, S. See Hansley, V. L.
Schramm, E. Sagger pin, P (4) 91*f*.
Schramm, H. W., Tollefsrud, W. H., and Parkes, A. G. Atmosphere furnace, P (5) 120*f*.
Schranz, H. L. Apparatus for classifying minerals, etc., by flotation, P (6) 146*h*.
Schreck, A. E., and Foley, J. M. Minor nonmetals, (6) 145*h*.
Schreiber, C. W. Glassware transfer mechanism, P (2) 33*a*.
Schreter, R. E., and Turpin, A. J. Proportional mixer, P (3) 69*i*.
Schrewelius, N. G. Electrically conductive element for use at elevated temperatures, P (10) 234*j*.
Schröder, H. Changes in the electrical resistivity of ferrites in a magnetic field, (9) 213*h*.
Schröter, R. Radioactive isotope study of the contamination of alloy steels by the products of erosion of the refractories used in casting, (8) 191*j*.
Schroll, F. Process for manufacturing green silicon carbide, P (5) 105*i*.
Schroth, J. J. Vibrating screens, P (1) 14*i*.
Schubert, F. Preparation of alkali metal chromate from chrome ores, P (3) 71*h*.
Schüffler, J., and Van Ackeren, W. Method of firing ceramic tubes suspended in a shaft kiln, P (11) 267*d*.
Schuessler, W. Vibratory bulk material conveyer mechanism, P (9) 216*e*.
Schuler, F. W. See Ross, H. G.
Schulkes, J. A., Gorter, E. W., and Beljers, H. G. Ferromagnetic material, P (7) 164*f*.
Schuller, W. Apparatus for the production of a thin sheet or mat from glass fibers, P (8) 189*a*.
Schulman, J. H. See Birks, J. B.
Schulte, G. J. Adhesives for laminated panels, (5) 108*d*.
Schulz, G. Practical experience with gasified oil firing, (9) 217*i*.
Schulz, H. Behavior of glasses under radiation, (5) 109*f*. Form in glassware, (9) 203*j*. Old and new problems in glass manufacture, (10) 228*c*.
Schulze, H. W. Blanking and slitting done at high speed, (3) 55*e*.
Schulze, R., and Broschke, H. Hardness-testing device, P (5) 119*e*.
Schumacher, W. W. B. Apparatus for spectrochemical analysis and structural analysis of solids, fluids, and gases by means of X rays, P (3) 79*g*.
Schunack, H. Tests with crystallization nuclei in concrete production to obtain high initial strengths, (6) 133*e*.
Schurecht, H. G. Ceramic spark plug insulator, P (11) 261*j*. Composite glass seal, P (8) 189*b*. Spark plug insulators containing stannic oxide, P (5) 116*a*.
Schuster, W. See Melzer, W.
Schusterius, C. Electrical heating appliances, P (8) 192*c*.
Schutz, H. R. See Bowe, G. R.
Schwab, A. Protection of pipes and containers by enamel coatings, (2) 30*f*.
Schwab, G. M., and Köhler, W. Changes in surface area of powdered materials during reactions in the solid state, (5) 123*a*.
Schwabe, K. New highly conductive glasses for pH measurement, (1) 5*g*.
Schwander, H. See Pfrunder, V. R.
Schwartz, A. B. Attrition-resistant inorganic oxide gels and method for preparing, P (1) 17*g*.
Schwartz, F. Impregnated mica paper is excellent insulator, (10) 237*h*.
Schwartz, M. A. See Rizzo, H. F.
Schwartzwalder, K. See Somers, A. V.
Schwarzkopf, P., and Kieffer, R. Cemented Carbides, B (6) 150*a*.
Schwarzkopf Development Corp. Sintering of shaped cemented metal bodies, P (4) 90*a*.
Schweitzer, D. G., Weeks, J. R., Kammerer, O. F., and Gurinsky, D. H. Method of forming a protective coating on ferrous metal surfaces, P (7) 155*h*.
Schweppe, J. See Serventi, S.
Schwertmann, U. Synthesis of defined iron oxides under various conditions, (5) 128*b*.
Schwichtenberg, H. J. See Hutchings, R. A.
Schwiete, H. E. See Lahl, W.
Schwiete, H. E., and Stollenwerk, H. Quartz-cristobalite transformation (II) effect of temperature, time, and surface area on the transformation behavior of erratic quartzite and rock crystal, (1) 20*i*; (III) transformation behavior of silica brick, (1) 9*d*.
Schwiete, H. E., and Ziegler, G. Principles and applications of the method of dynamic differential calorimetry, (1) 20*e*. Thermochemical investigations on the dehydration of hydrargillite by means of dynamic differential calorimetry, (5) 128*i*.
Schwuttke, G. H., Haffner, E. D., and Adler, R. M. Crystal orientation device, P (11) 267*a*.
Scott, A. L., and Trewhella, S. W. Apparatus and method for producing tapered glass rods, P (5) 111*d*.
Scott, C. J., and Pertwee, K. S. G. Vaporization coating process and alloy therefor, P (3) 59*h*.
Scott, E. J. See McGuire, T. R.
Scott, J. J. See Marshall, D. W.
Scott, R., and Williams, J. Warm pressing (800°C.) of UO_2 and UO_2-metal mixtures, (4) 89*c*.
Scuderi, T. G. See Cleek, G. W.
Seago, T. T. Royal Rockingham (III) fame and fall, (1) 2*c*.
Seal, M. Graphitization of diamond, (8) 200*g*.
Seal, R. T. See Birks, L. S.
Seanor, J. G. Firing heavy clay products (I) four basic steps in firing detailed, (11) 257*h*; (II) specific factors in kiln design and operation, (11) 257*i*. Plant operator's manual on dearing (I–V), (11) 264*j*.
Searle, A. B., and Grimshaw, R. W. Chemistry and Physics of Clays and Other Ceramic Materials, B (3) 79*i*.
Sears, G. W. See Alexander, G. B.
Sears, G. W., and DeVries, R. C. Nucleation of alumina at high supersaturations and subsequent recrystallization, (8) 201*g*.
Sears, G. W., and Navias, L. Evaporation of aluminum oxide, (4) 101*a*.
Seats, P., and Appleberry, C. M., Jr. Method of improving adherence of luminescent screens, P (3) 59*c*.
Seats, P., and Connolly, L. V., Jr. [Luminescent] screen settling system, P (4) 86*h*.
Seehof, J. M., and Trurnit, H. J. Fast response recording hygrometer, P (2) 43*a*.
Segatto, P. R. Analysis of boron in borosilicate glasses by neutron transmission, (6) 134*f*.
Segur, A. B., and Esch, H. G. Method of hacking brick, P (11) 258*a*.
Seibert, C. F. Conveyer apparatus, P (6) 136*b*.
Seidensticker, R. G., and Hamilton, D. R. Comment on "Observations on growth of $BaTiO_3$ crystals from KF solutions," (8) 199*j*.
Seifriz, R. S. Control over maintenance costs in the firebrick industry, (11) 258*h*. Direct costing for brick industry, (11) 257*f*.
Seimiya, S. See Mori, S.
Seipt, W. R. Composite building unit, P (11) 251*f*.
Sekiguchi, S. See Takei, T.
Sekiya, M. Dehydration of gypsum and the formation of $CaSO_4 \cdot {}^2/_3H_2O$, (11) 250*j*.
Sekizawa, H. See Iida, S.
Selas Corp. of America. Apparatus for convection heating, P (5) 120*e*. Burner, P (6) 145*c*. Fire check, P (4) 98*b*. Industrial gas burner, P (11) 267*h*. Radiant cup type gas burner, P (1) 16*f*.
Selby, E. E., Jr., Plummer, W. L., and Lederer, E. A. Settling of luminescent screens, P (6) 143*e*.
Selden, J. K. Foamed slurry generator, P (4) 83*e*.
Seligman, B. See Keith, C. D.
Selker, M. L. Method of producing small semiconductor silicon crystals, P (9) 214*g*.
Sellers, F. B., and Chapin, H. M. Portland cement manufacture from oil shale, P (2) 29*e*.
Sellers, P. Handmade brick manufacture in Nyasaland, (10) 231*g*.
Selsing, J. Ceramic products, P (1) 11*e*.
Seltzer, R. E., and Hoff, J. M. Palletized bag squeezing machine, P (5) 121*d*.
Sen, S. Differential thermal analysis and thermogravimetric analysis studies on gypsum, (3) 53*c*. See Guha, S. K.; Krishnaswami, S. P.
Sen, S., and Srikantan, G. M. Testing and evaluation of plaster of Paris, (1) 3*a*.
Senftle, F. See Pankey, T.
Senn, O. F., and Englert, R. D. Method for preparing boric acid, P (5) 121*a*.
Sennholtz, C. E. Impact hammer with removable wear member, P (7) 167*i*.
Sera, Y. (editor). Old Imari Blue & White Porcelain, B (5) 130*a*.
Sergeeva, V. P. See Vol'nov, I. I.
Serova, G. A. See Popil'skil, R. Ya.
Serra, J. M. See Portolés, J. L. A.
Serventi, S., and Schweppe, J. Method and apparatus for feeding batch materials, P (8) 189*f*.
Service Diamond Tool. Method of forming a diamond tool, P (6) 131*g*.
Servo Corp. of America. Pyrometer, P (6) 144*i*, P (7) 166*f*.
Setaka, N. See Kawashima, C.
Setkina, O. N. See Avgustinik, A. I.
Setterington, R. A. See Atkins, P. A.
Settzo, R. J. Linear body gauging, P (4) 86*g*.
Seward, W. K. Grinding and polishing with abrasive belts, (4) 81*e*.
Seymour, S. L. See Duncan, J. E.
Seymour, S. L., and Duncan, J. E. Glass composition, P (2) 33*e*.
Shafer, M. W. See Moruzzi, V. L.
Shafer, M. W., and Roy, R. Rare-earth polymorphism and phase equilibria in rare-earth oxide–water systems, (1) 21*b*.
Shakhtin, D. M. See Levintovich, E. V.
Shalkov, K. A., Nevredimova, P. V., and Radin, V. V. Use of vibrogrinding of grog for improving the quality of high grog refractories, (3) 62*a*.
Shand, E. B. Stress behavior of brittle materials, (1) 21*g*.
Shandberg, M. W. P. See Mattuck, R. D.
Shane, R. S. See Carlson, W. G.
Shannon, R. D., and Friedberg, A. L. Titania opacified porcelain enamels, (10) 226*i*.
Shannon, R. F., and Mitchell, R. H. High temperature resistant vitreous material, P (3) 56*d*.
Shapiro, I. E., and Ivyanskil, A. Z. Glass-concrete heating panels, (10) 228*b*.
Shapiro, I. P. Determination of absorption spectra of crystalline phosphors by means of diffuse reflection spectra, (9) 213*i*.
Shapiro, L. Particle counting apparatus, P (5) 119*h*. Rapid photometric determination of low level magnesium in rocks, (4) 101*c*.
Sharma, K. D. See Ram, A.
Sharp, D. E. See Swift, H. R.
Sharpe, C. B., and Brockus, C. G. Method for measuring the dielectric constant of ferroelectric ceramics at S-band frequencies, (7) 163*g*.
Sharples, T. D. See Payne, R. E.
Sharples Corp. Air directing and particle removing structure for particle classifiers, P (10) 239*f*. Particle classifiers, P (10) 239*g*.
Shartsis, J. M. See Ormsby, W. C.
Shatas, R. A. See Marshall, J. F.
Shaver, K. J. Method of increasing fluidity of aqueous industrial mineral slurries, P (2) 29*c*.
Shaver, W. W. See Blanding, W. S.
Shavrova, E. B. See Kalnarskil, I. S.
Shaw, A. R., and Sampson, F. W. Method for measuring the strength of sintered ferrous articles, P (11) 260*h*.
Shaw, B. See Lemmers, R.
Shaw, G. S. Tubular glass containers such as ampoules, phials, etc., P (3) 59*g*.
Shaw, K. Advances in Soviet ceramic research, (5) 129*g*. Color technology and decoration of ceramics (I) color making, (11) 250*d*. Making your own pottery colors (VI) grays and blacks, (7) 153*i*.
Shaw, N. Investment materials for casting molds, P (4) 89*b*.
Shaw, R. B., and Connor, W. G. Refractory brick, P (8) 193*d*.
Shaw Process Development Corp. Investment materials for casting molds, P (4) 89*b*. Mold structure and its production, P (8) 193*c*.
Shchegiova, M. D. See Kalnarskil, I. S.
Shearer, N. W. See Mathers, J. E.
Sheets, H. D., Bulloff, J. J., and Duckworth, W. H. Phosphate bonding of refractory compositions, (11) 259*b*.
Sheets, T. C. See Stutzke, W. A.
Sheets, V. L. Abrading wheels, P (3) 51*h*.
Sheft, I. See Katz, J. J.
Sheheen, S. J. Process of making a ceramic element usable in surface-gap igniters, P (4) 94*b*.
Shekarchi, E. See Bloss, F. D.
Sheldon, J. L. Aperture mask coating to prevent cathode poisoning, P (10) 237*j*.
Sheldon, W. D. See Weston, D.
Sheldon, W. M. Vertical pulverizing machine, P (6) 147*b*.
Shelkovnikov, B. A., and Aga-Oglu, K. Russian excavations of Chinese ceramics in Transcaucasia: Correspondence, (1) 2*c*.
Shell, F. J., and Still, R. D. Composition comprising cement, methyl siliconate salt, and cellulose ether, method of making, and process of employing, P (7) 155*a*.
Shell, H. R. Impact-resistant ceramics from synthetic fluoramphiboles and processes of making, P (11) 262*c*. See Bloss, F. D.
Shell, H. R., and Comeforo, J. E. Impact resistant ceramic dielectric, P (8) 195*d*.
Shell, H. R., Comeforo, J. E., and Eitel, W. Synthetic asbestos investigations (IV) synthesis of fluoramphiboles from melts, (3) 78*f*.
Shell, H. R., Hatch, R. A., and Brown, D. L. Synthetic asbestos investigations (III) synthesis and properties of fibrous potassium-lead silicate, (3) 78*b*.
Shell Development Co. Process for decolorizing a hydrocarbon oil using an alumina adsorbent, P (7) 168*b*.
Shell Oil Co. Process for supplying heat to a bed of finely divided refractory material, P (11) 269*j*.
Shelley, D. P. Means for firing ceramic ware by intermittent ovens, P (10) 240*f*.
Shelley Potteries, Ltd. Means for firing ceramic ware by intermittent ovens, P (10) 240*f*.
Sheludyakov, N. A. Assessment of electric glass tanks, (10) 227*h*.
Shenango China, Inc. Dishware decorating [multiple station] machine, P (11) 262*b*.
Shepard, A. P. See Ingham, H. S.
Shepard, R. L. See Westbrook, R. D.
Shepherd, W. G. See Wargo, P.
Shepley, L. C., and Bestul, A. B. Variations of surface tension calculated with improved approximation for activity coefficient, (8) 202*a*.
Sherman, H., Jr. Cathode-ray tube for radarscopes, etc., P (10) 238*c*.
Sherts, W. M., Tatnak, J. E., and Zurney, W. E. Fin grinding machine, P (2) 33*d*.
Sherwen, J. W. Vibratory conveyer apparatus, P (10) 239*j*.
Sherwood, P. T. Determination of the cement or lime content of stabilized ferruginous soils, (8) 186*b*.
Shevadzutskil, V. S. Using dolomite sand—reserves of metallurgical raw materials, (9) 218*a*.
Shevlin, T. S. See Newkirk, H. W.
Shevlin, T. S., and Lindenthal, J. W. Modulus of rupture vs. rate of loading, (1) 15*e*.
Shimada, H. Experimental investigation of the occurrence of bubbles and flames in electrically heated model glass tanks, (5) 110*f*.

Shimada, K. Method for estimating the quality of Portland cement admixtures, (10) 226*b*.
Shimane, H., and Sudo, T. Chlorite mineral found associated with vermiculite, (7) 170*d*.
Shimohira, T. Factors affecting the adherence of ceramic coatings to stainless steel (I) ceramic coatings, (2) 30*b*.
Shimura, F. See Naruse, A.
Shindo, T. Note on the theory of dislocation in germanium, (6) 142*d*.
Shingler, T. See Toye, R.
Shiraki, Y., and Iizuma, T. Dielectric loss and insulation resistance of bodies made of chlorite, pyrophyllite, and sericite, (4) 92*c*.
Shirane, G. See Jona, F.
Shirane, G., Danner, H., and Pepinsky, R. Neutron diffraction study of orthorhombic $BaTiO_3$, (10) 244*h*.
Shirayanagi, I. See Nakamura, M.
Shkrabkina, M. M. See Mikheeva, V. I.
Shlain, I. B., and Smirnov, E. I. Estimation of the heterogeneity of raw materials, (8) 198*d*.
Shmeleva, N. A., and Kotova, T. S. Protective coatings on glass pots, (3) 61*c*.
Shmidt, Yu. A. See Dubrovo, S. K.
Shockley, W. Crystal growing apparatus, P (7) 182*a*.
Shockley Transistor Corp. Crystal growing apparatus, P (7) 182*a*.
Shogenji, K. Galvanomagnetic effects in *p*-type crystals of PbTe, (6) 142*g*.
Shol'ts, N. N. Electrical properties of oxide ferromagnetic materials, (1) 12*g*.
Shook, W. B. Design improvements for vitrified clay pipe, (10) 231*f*.
Shoot, L. E., Gray, R. B., and Luzar, R. H. Precision piezoelectric ceramics for the single element stereophonic cartridge, (8) 194*g*.
Shorter, A. J. Some studies of mullite formation, (7) 179*b*.
Shpil'kov, E. M. See Botvinkin, O. K.
Shrader, R. E. See Larach, S.
Shtaveman, A. V. Suransk pyrophyllite as a ceramic material, (6) 146*f*.
Shumilin, A. A. Modern shaft kiln for firing refractory materials, (3) 60*a*. Natural gas as a technological fuel for the refractories and ceramic industries, (8) 197*j*.
Shuster, R. L. Experience in the use of foam glass wastes, (6) 134*i*.
Shvartsman, I. Sh. See Dubrov, N. F.
Shyne, J. J. See Fahnoe, F.
Shyne, J. J., and Fletcher, W. D. Electrophoretic coatings and compositions, P (3) 55*i*.
Sibley, F. S. See Spooner, N. F.
Sidorenko, Yu. P. See Tsigler, V. D.
Siebenthal, K., and Jackson, A. S. Means for centering hot glass parisons, P (10) 230*i*.
Siefert, A. C., and Stalego, C. J. Methods for producing fibrous glass, P (6) 136*j*.
Siegert, J. Herreböe faience, (5) 106*a*.
Siemens & Halske A.-G. Ferrite magnetic heads, P (11) 263*j*. Semiconductor arrangement, P (4) 94*h*.
Siemens-Schuckertwerke A.-G. Apparatus and method for the production of glass foil, P (4) 86*b*. Heat-resistant electric insulation and method of manufacture, P (3) 66*a*. High-tension insulator, P (8) 194*b*. Method of melting compounds without decomposition, P (8) 202*a*. Method for producing mica pulp, P (4) 100*a*. Vaporization method of producing thin layers of semiconducting compounds, P (10) 239*a*.
Siempelkamp, G., & Co. Hydraulically operated [high temperature] presses, P (11) 265*g*.
Siepen, B. Ceramic sculptures of Franziska Lenz-Gerharz, (11) 250*c*.
Šilhánek, J. See Khol, F.
Sils, V. See Smakula, A.
Silva, E. de M. S. e. See Soares e Silva, E. de M.
Silver, A. H. Nuclear magnetic resonance in B_2O_3-H_2O glasses and boric acids, (10) 228*c*.
Silversher, H. I. Laminar ray resistant materials, P (7) 164*h*.
Sim, A. C. Electric semiconductor devices, P (7) 165*c*.
Simanov, Yu. P. See Borzenkova, M. P.
Simeral, W. G. See Bragaw, C. G., Jr.
Simjian, L. G. Abrading device, P (6) 131*g*.
Simmingsköld, B. What every glassmaker should know about sand, (2) 32*h*.
Simmingsköld, B., and Jönsson, B. Potassium bicarbonate as a raw material for glass, (10) 228*h*.
Simms, C. H. See, Breadner, R. L.
Simon, Henry, Ltd. Air separation devices, P (9) 216*a*.
Simon, I. Structure of neutron-disordered silica, (4) 102*e*.
Simon-Carves, Ltd. Electrostatic precipitators, P (7) 165*b*.
Simonds Abrasive Co. Abrasive article, P (4) 81*g*.
Simons, H. S., and Jeffrey, J. W. X-ray study of pulverized fuel ash, (11) 268*b*.
Simpson, E. A. See Ahlberg, J. E.
Simpson, H. E. Effect of various iron compounds on the transmission and color of soda-lime-silica glass, (11) 253*f*. Glass industry—1958 (I, II), (8) 188*d*. Rubidium in lead and barium glasses, (9) 208*f*. Ten years of progress in the glass industry, 1948–1958, (9) 208*b*.
Simpson, Herbert, Corp. Multiple stage mixing apparatus [dry pan], P (10) 239*g*.
Simpson, S. G. See Hamilton, L. F.
Sinclair, W. R., Flaschen, S. S., and Peters, F. G. Direct deposition of sulfide glass films by evaporation, (4) 92*e*.
Sinclair Refining Co. Method of manufacturing catalysts, P (1) 18*f*. Method for preparing aluminum hydrate compositions, P (1) 18*g*. Preparation of silica-based catalysts, P (1) 19*c*. Process for preparing a catalyst, P (3) 72*c*. Process for preparing cobalt-molybdenum-alumina catalyst, P (5) 122*h*.
Sindlinger, C. J. See Rahn, H. W.
Sing, K. S. W., and Swallow, D. Krypton adsorption and the surface area of silica, (8) 200*i*.
Singer, E., and Adolf, C. Forsterite ceramic with the same thermal expansion as titanium, (9) 213*f*.
Singer, F. Low-temperature glazes, (1) 10*i*.
Singer, J. R. Magnetic susceptibility of NiO and CoO single crystals, (2) 40*a*.
Singer, P. See Holden, A.
Singh, U. S. Importance and measurement of contact angles [in ceramics], (2) 42*h*.
Singwi, K. S. See Kothari, L. S.
Sinha, B. C. See Kumar, S.
Siniansky, V. See Braniski, A.
Siniansky, V., and Solomon, L. Study of forsterite refractory materials, (2) 36*b*.
Sintercast Corp. of America. Method for coating and infiltrating a porous refractory body, P (10) 235*d*. Method for producing tool steels containing titanium carbide, P (11) 260*i*. Production of hollow thermal elements, P (10) 235*c*. Thermal element, P (2) 37*g*.
Sinyanskii. See Siniansky.
Sinyanskii, V. I., Solomon, L. E., and Bertseller, A. S. Production of forsterite clinker in a rotary kiln, (6) 139*d*.
Sinyanskii, V. I., Solomon, L. E., and Khetya, A. L. Production of forsterite refractories, (9) 211*g*.
Sirvetz, M. H., and Saunders, J. H. Resonance widths in polycrystalline nickel-cobalt ferrites, (11) 263*j*.
Sisler, H. H. See Newkirk, H. W.
Sivchikova, M. G., and Daln, F. L. Boron-free leadless glazes for earthenware, (5) 114*j*.
Skarstrom, C. W. See Worsham, C. H.
Skellett, A. M. Cold cathode vacuum lamp, P (7) 155*e*.
Skil Corp. Cutting apparatus, P (1) 1*g*.
Skoglund, B. Turbulent pneumatic driers for granular and pulverulent material, P (2) 42*f*.
Skolnick, L. P. See Goetzel, C. G.
Skow, M. L. Mineral Facts and Problems (preprints): Mica, (7) 167*b*.
Skrebtsov, A. M., and Kostyuk, V. A. Study of the durability of sintered bottoms in open-hearth furnaces by means of radioactive isotopes, (3) 69*c*.
Skuza, M. See Schildhauer, W. E.
Slatanoff, V., and Djabaroff, N. Treating foamed concrete with CO_2 in the manufacture of insulating units, (5) 107*e*.
Slaten, L. E. Precipitation of dispersed fine-particle magnetite, (9) 214*g*.
Slaughter, M., and Keller, W. D. High-temperature phases from impure kaolin clays, (2) 35*d*.
Slavyanski, V. T. Gases in glass, (6) 134*f*.
Slayter, G. Apparatus for manufacture of fibrous glass, P (11) 254*i*. Manufacture of glass fibers, P (11) 256*f*.
Slayter, G., and Drummond, W. W. Method of crimping fibrous glass strand, P (4) 87*h*.
Slayter, G., Warden, C. B., and Mercer, R. C. Apparatus for producing curly glass fibers in mat form, P (7) 158*a*.
Slesser, C. G. M., and Deans, R. Estimation of particle size—an improved Werner sedimentation apparatus, (7) 165*h*.
Slichter, C. P. See Castner, T., Jr.
Slousbch, V. G. See Larin, A. P.
Sly, W. W., Mfg. Co. Dust collector, P (10) 239*j*.
Smakula, A., Kalnajs, J., and Sils, V. Densities and imperfections of single crystals, (3) 73*g*.
Smakula, A., and Sils, V. Precision density determination of large single crystals by hydrostatic weighing, (3) 77*c*.
Small, L. Method of forming a diamond tool, P (6) 131*g*.
Smalley, A. K. See King, B. W.
Smalley, A. K., Riley, W. C., and Duckworth, W. H. Al_2O_3-clay UO_2 ceramics for nuclear-fuel applications, (9) 210*g*.
Smart, J. S. Application of the Bethe-Weiss method to ferrimagnetism, (7) 169*c*.
Smart, J. S., Jr. See Baier, R.
Smidth, F. L., & Co. Apparatus for cooling finely divided materials, P (4) 97*g*. Apparatus for cooling hot kiln gases, P (4) 97*g*. Method and apparatus for cooling hot materials by gas, P (3) 69*h*. Method and apparatus for nodulization of pulverulent materials, P (7) 165*b*. Rotary drum grinder and plural separator circuit, P (8) 199*g*.
Smiley, W. D. Resistor and method of preparing, P (10) 238*i*.
Smirnov, E. I. Determining the selection of average samples of friable materials, (10) 227*g*. See Shlain, I. B.
Smit, J., and Wijn, H. P. J. Ferrites, B (6) 150*j*.
Smith, A. L. See Crosby, G. E.
Smith, A. N. Investigations on glaze-body layers (II) influence of the layer on crazing and peeling (1) 10*g*. Investigations on the moisture expansion of porous ceramic bodies, (3) 63*g*. Some calculations on the elastic properties of glazed tile, (1) 11*j*.
Smith, A. O., Corp. Ceramic welding back-up strip and method of applying, P (4) 89*g*. Method of applying a glass coating to steel by using an intermediate layer of nickelous oxide, P (10) 227*d*. Method of glass coating metal members, P (7) 155*i*. Method of producing glass fibers, P (10) 230*j*. Soil additive and process for fertilizing and conditioning soil, P (6) 134*b*.
Smith, A. W. See Hove, J. E.
Smith, A. W., and Rasor, N. S. Observed dependence of the low-temperature thermal and electrical conductivity of graphite on temperature, type, neutron irradiation, and bromination, (4) 101*c*.
Smith, D. O. Magnetization of a magnetite single crystal near the Curie point, (11) 263*c*.
Smith, D. R. Method for elevating and measuring Na_2SiO_3, (11) 264*h*.
Smith, E. Slip-casting process, P (10) 235*h*.
Smith, E. J. D. Corrosion of semiconducting glazes, (6) 141*b*.
Smith, G. H., and Kaffenberger, R. Jet flame spraying method and apparatus, P (5) 108*i*.
Smith, G. S., and Rindone, G. E. Acid-base relationship in glass systems (IV) application of the oxygen electrode in galvanic cells with glasses of different composition, (11) 253*g*.
Smith, H. R., Jr. Corrosion- and abrasion-resistant coated metals, P (3) 55*h*.
Smith, J. J., and Duncan, J. E. Glass composition, P (2) 33*f*.
Smith, J. J., and Middleswarth, E. T. Glass composition, P (3) 58*i*, P (9) 209*e*.
Smith, J. P., and Brown, W. E. X-ray studies of aluminum and iron phosphates containing potassium or ammonium, (3) 79*b*.
Smith, J. R. Optical properties of heated plagioclases, (3) 70*f*. See Kramers, W. J.
Smith, J. V. Effect of temperature, structural state, and composition on the albite, pericline, and acline-A twins of plagioclase feldspars, (3) 74*g*. See Agrell, S. O.; Emeleus, C. H.
Smith, J. V., and MacKenzie, W. S. Alkali feldspars (IV) cooling history of high-temperature sodium-rich feldspars, (7) 168*j*; (V) nature of orthoclase and microcline perthites and observations concerning the polymorphism of potassium feldspar, (7) 168*j*.
Smith, M. L. Fifteen years' experience with a five-year engineering curriculum, (9) 222*e*.
Smith, R. C. See Perrin, T. S.
Smith, R. D. Glassmaking material and method, P (8) 189*b*.
Smith, R. K., and Turner, A. Elements of engineering design—with particular reference to the ceramic industry, (2) 49*a*.
Smith, S. L. Ore Microscopy, B (3) 80*c*.
Smolinski, A. v. See Engelhardt, W. v.
Snader, E. S. See Drenning, J. W.
Sneddon, I. N. Symposium on elasticity and viscoelasticity in ceramics: Introduction, (7) 180*c*.
Snelling, M. A. See Dell, H. A.
Snelson, H. J. See Prior, W. L.
Snow, H. J., and York, J. L. Apparatus for forming and treating fibers, P (2) 32*i*.
Soares e Silva, E. de M. Experience in the use of refractories at the Volta Redonda steel mills, (7) 160*h*.
Socci, M. Titanium and zirconium in the chemical industry, (3) 71*d*.
Société Anon. des Manufactures des Glaces et Produits Chimiques de Saint-Gobain, Chauny et Cirey. Apparatus for the decoration of articles, P (7) 157*i*. Apparatus for polishing glass, etc., P (4) 86*d*. Apparatus for surfacing glass, P (11) 255*h*. Glass, P (4) 86*j*. Glass and method of making, P (6) 136*c*. Grinding and polishing of glass sheets, P (6) 136*f*. High pressure polishing of flat glass, P (9) 209*i*. Material feeding hopper, P (4) 95*h*. Method of and apparatus for making glass, P (6) 136*d*. Method and apparatus for polishing, P (11) 256*h*. Method of tempering glass, P (4) 87*b*. Polishing of glass plates, P (9) 209*i*. Porous refractory material; P (6) 140*g*.
Société Anon. les Successeurs de B. Trayvou. Semiautomatic weight makeup device for weighing pulverulent or fine granulous products, P (7) 168*f*.
Société des Blancs de Zinc de la Mediterranée, Eng. Chabaury, Pierre Gindre & Cie. Method of dissolving orthotitanic acid, P (3) 71*b*.
Société d'Electro-Chimie, d'Electro-Metallurgie et des Acieries Electriques d'Ugine. Process of making molded aluminum nitride articles, P (8) 193*a*.
Société d'Electronique et d'Automatisme. Method of making electroluminescent layers, P (5) 117*g*. Preparation of layers of electroluminescent materials, P (9) 215*b*.
Société Industrielle et Commerciale des Ouvriers Lunetiers (Cottet, Poichet, Tagnon & Cie). Machine for grinding an optical surface in a piece of refractive material, P (4) 86*h*.
Society of Glass Technology, Refractories Committee. Survey of refractories used in glass tank furnaces: tank blocks, (6) 140*de*.
Socony Mobil Oil Co., Inc. Attrition-resistant inorganic oxide gels and method for preparing, P (1) 17*g*. Preparation of alumina gels, P (1) 18*j*. Preparation of chromia-copper oxide hydrogels, P (5) 121*g*. Preparation of phosphate-containing alumina gels, P (10) 242*i*.
Soda, T., Tada, N., Maekawa, A., and Eguchi, I. Mortar and concrete containing surface-active agents, (2) 28*j*.
Sokolov, I. G. See Khramov, P. G.
Sokolov, P. V. Heat-treatment during sanitary-earthenware casting on conveyers, (10) 236*c*.
Sokolov, V. A. See Gorban, A. N.
Solar Aircraft Co. Cermet composition and method of coating therewith, P (2) 30*e*.
Solbach, W. Effect of some functional differences between cyclones and multicyclones on centrifugal dust extraction technology, (11) 264*h*.
Solomin, N. V., Galdina, N. M., and Lapin, V. V. Microstructure of baddeleyite-corundum electrofused refractory before and after service in a glassmelting furnace, (6) 138*g*.

Solomin, N. V., Galdina, N. M., Sulkhanov, M. B., and Lodochkin, P. A. Production scale manufacture and industrial testing of Bakor, (6) 139*g*.
Solomon, L. See Siniansky, V.
Solomon, L. E. See Sinyanskii, V. I.
Solt, I. H., Jr. See White, R. L.
Solymosi, P. See Szabó, Z. G.
Somers, A. V., and Schwartzwalder, K. Cement for spark plugs, etc., P (4) 91*a*.
Somers, J. C. Dust and fume control, (1) 22*d*.
Somiya, S. See Muan, A.
Sommer, H. Process and apparatus for separating solid particles from highly viscous fluids, P (5) 122*e*.
Sono, K. Some experiments on vanadium colors, (2) 38*b*.
Sopp, A. L., Jr. Growth of aluminum during porcelain enameling, (5) 108*g*.
Sorensen, R. T. See Fenske, D. H.
Sorg, H. E., and La Forge, L. H., Jr. Ceramic vacuum tube, P (2) 40*j*.
Sorrell, C. A. Reaction sequence and structural changes in cordierite refractories, (8) 192*a*.
Soskova, V. D. See Vilnis, K. K.
Sosman, R. B. New and old phases of silica, (7) 175*i*. See Feagin, R. C.
Soustiel, J. Ceramics of Daghestan, called "Koubatcha," (7) 153*i*.
Southern Lightweight Aggregate Corp. Lightweight aggregate furnace patch lining and process of applying, P (1) 16*e*. Method and apparatus for flotation separation of lightweight aggregate and product, P (8) 198*h*. Rotary kiln, P (10) 240*f*.
Southern Research Institute. Apparatus for testing metals and test specimen for use therein, P (5) 119*d*.
Southwick, R. D. See Mould, R. E.
Souza Santos, H. L. de. See Souza Santos, P. de.
Souza Santos, P. de. Clays, (8) 198*c*. See Watson, J. H. L.
Souza Santos, P. de, Genova, J., and Souza Santos, H. L. de. Physicochemical and technological characteristics of Brazilian kaolins, (5) 121*c*.
Spain, R. W. Better Glass Making, B (9) 222*g*.
Spalding, D. B. Apparatus for the simulation of combustion, P (8) 197*i*.
Spausszus, S. Dielectric measurements on bentonites and kaolins, (5) 124*h*.
Speed, W. C., and Sutheim, G. M. Production of ferromagnetic iron oxide, P (1) 19*e*.
Speer Carbon Co. Electrode connecting nipple, P (10) 235*a*.
Speight, E. A. See Carasso, J. I.
Spence, G. See Gill, R. M.
Spence, G. M. Rotary kilns, P (6) 133*f*.
Spencer E. G. See LeCraw, R. C.
Spencer, H. R., Jr. Color in porcelain enamel, (3) 52*c*.
Spencer Chemical Co. Process and compositions for improving clay products, P (1) 7*h*.
Sperry Rand Corp. Method of treating magnetic material and resulting articles, P (1) 13*j*.
Spiller, R. C. See Porter, M. W.
Spinner, S., Reichard, T. W., and Tefft, W. E. Comparison of experimental and theoretical relations between Young's modulus and the flexural and longitudinal resonance frequencies of uniform bars, (8) 199*j*.
Spinnfaser, A.-G. Apparatus for subdividing solids, P (2) 45*c*.
Spitzner, W. Oil fired chamber kilns, (11) 267*d*.
Spodig, H. Magnetic separator, P (2) 42*c*.
Spooner, N. F., and Sibley, F. S. Thermocouple element, P (4) 97*a*.
Sporlan Valve Co., Inc. Bonding of adsorbent materials, P (4) 89*d*.
Spracklen, S. B., Martin, S. T., Rogers, L. J., Capehart, C. W., Fertig, R. B., and Fellows, C. G. Selective infrared gas analyzer, P (8) 197*c*.
Sprague, F. Device for removing impurities from gases, P (7) 165*e*.
Sprague Electric Co. Glass sealing apparatus, P (11) 255*j*. High dielectric constant ceramics, P (9) 214*b*.
Spriggs, R. M., and Friedberg, A. L. Reaction kinetics of porcelain enamel-metal systems, (6) 134*a*.
Spruce, T. H. Inspection—watchdog of quality in domestic pottery manufacture, (7) 162*h*.
Srikantan, G. M. See Sen, S.
Srivastava, S. N. See Mukerjee, L. N.
Stadler, J. See Rüdorff, W.
Staffin, H. K. See Cochrane, J. D., III.
Staffordshire Potteries, Ltd. Method of decorating pottery ware, P (10) 236*e*.
Stalego, C. J. Apparatus for burning fluid combustible mixtures [radiant burner], P (9) 217*d*. See Siefert, A. C.
Stalego, J. P. High temperature glass fiber insulation products, P (10) 230*b*.
Stallard, R. M. See Schattler, W. A.
Staljer, T. L. See Swartz, J. C.
Stambera, A. Method and apparatus [hopper] for conveying bulk materials, P (7) 165*b*.
Stamicarbon N. V. Apparatus for separating mixtures into particles of low specific gravity and particles of high specific gravity, P (5) 118*d*. Apparatus for wet screening [with a curved deck], P (10) 241*f*. Method for separating fine material, P (5) 121*b*. Process and apparatus for separating particles according to size, P (5) 122*e*. Process of separating mixtures of particles, P (8) 199*d*. Screening apparatus, P (5) 118*j*.
Standard Oil Co. Burner structure for high temperature gas generators, P (10) 240*g*. Preparation of alumina extrudates, P (7) 167*h*.
Stanley, J. M. Insulated electrode, P (3) 66*c*.
Stanley, J. M., Theokritoff, S., Gerber, E. A., Chi, A. R., and Hammond, D. L. Method of fabricating a synthetic quartz crystal, P (10) 238*e*.
Stanworth, J. E. See Baynton, P. L.
Starczewski, M. Silica refractories—relation between thermal expansion and mineralogical composition, (11) 259*f*.
Stare, C. G. H. See Berg, J. V.
Stark Ceramics, Inc. Device for observing kiln temperatures, P (3) 60*f*. Rail lock for transfer cars, P (5) 120*f*.
Startzell, P. Glass bending mold, P (7) 158*d*.
Starun, V. R. Experimental work at the chrome-magnesite brick unit of the Zaporozhskii refractories plant, (10) 232*g*.
State of Israel, Prime Minister's Office. Windows for admitting solar radiation, P (3) 70*a*.
Statton, W. O., and Hoffman, L. C. Structure in vitreous silicate fibers as shown by small-angle scattering of X rays, (10) 245*f*.
Staudinger, H. Ceramic cutting materials, (11) 249*f*.
Stead, R. R. Etching of semiconductor materials, P (7) 164*d*.
Stearns, R. H. Adjustable [rotating drum] permanent magnetic separator, P (11) 265*d*.
Steatit-Magnesia Akt.-Ges. Ferrite with constricted magnetic hysteresis loop, P (8) 195*b*.
Stebel, F. Choice of mortar for silica brick linings, (5) 113*c*.
Stedham, M. E. C. Automatic moisture indicator, (9) 216*f*. Effect of insulation on working conditions in a Hoffmann kiln, (1) 15*i*.
Stedman, C. E. Mixing apparatus, P (2) 42*a*.
Stedman, F. E., and Pocock, R. C. Friction lining compositions, P (10) 235*b*.
Steel Founders' Society of America. Inorganic bonded cores for steel castings, P (8) 192*f*.
Steele, K. A. Control of flame characteristics by Wobbe index value, (6) 145*b*.
Steierman, B. L. Method of applying glassforming metal borates to surfaces, P (5) 112*g*. See Mike, T. M.
Steigerwald, K. H. Method for working materials by a beam of charged particles, P (1) 21*i*.
Steimke, F. C., Jr. Fused cast refractory, P (5) 114*f*.
Stein, G. A. Method of producing glass fibers, P (10) 230*j*.
Steinbach, H. See Hilgers, G.
Steinberg, M. A. Method for coating graphite with metallic carbides, P (8) 192*g*.
Steinbrucker, C. Beginnings of modern French porcelain, (3) 52*a*. Famous decorators and modelers of English porcelain, (3) 52*e*.
Steinhofer, A. See Ziese, W.
Steinkohlen-Elektrizität Akt.-Ges. See Ruhrchemie Akt.-Ges.
Stella, J. P. See Chester, A. E.
Stemple, I. S., and Brindley, G. W. Structural study of talc and talc-tremolite relations, (2) 48*a*.
Stepanenko, M. G. See Vilnis, K. K.
Stepanenko, M. G., and Pavlov, V. S. Effect of a barrier device on the heat balance of the cooling part of a glass tank, (8) 188*a*.
Stephenson, A. D. Here's a new approach to Portland cement, (10) 226*a*.
Stermer, M. G. See Martuscello, P. J.
Stern, D. R., and McKenna, Q. H. Preparation of metal borides and silicides, P (9) 212*d*.
Stern, D. R., and Uchiyama, A. A. Continuous electrothermic production of boric oxide, P (1) 18*b*.
Stern, M. What you should know about thin-wall buildings, (4) 103*c*.
Sterry, W. M. Glass lubricants aid high temperature forming, (11) 253*j*.
Stetson, W. C. End seal for electrical heating elements, P (4) 93*b*.
Stevens, G. W. W. Microphotography, B (1) 24*h*.
Stevenson, R. W. H. See Duncanson, A.
Stewart, B. O., and Schneiter, H. J. Sound absorptive structure, P (9) 205*b*.
Stewart, G. H. British Ceramic Society, (3) 79*h*.
Stewart, J. Vibrating conveyers, P (9) 216*d*.
Stewart, J. E. See Richmond, J. C.
Still, R. D. See Shell, F. J.
Stinchfield, R. P. See Wachtman, J. B., Jr.
Stinnes, H., and Baumer, H. Glassmaking apparatus, P (9) 209*g*.
Stirland, D. J., Thomas, A. G., and Moore, N. C. Observations on thermal transformations in alumina, (7) 176*f*.
Stoate, N. P. Apparatus for detecting foreign bodies in transparent vessels, P (11) 267*c*.
Stock, A. J. Nonsegregating system for handling and feeding solid particulate material, P (2) 42*b*.
Stöber, W. Adsorption properties and surface structure of quartz powders, (5) 123*a*. Solubility and solution equilibria of silicic acid, (5) 127*e*.
Stollenwerk, H. See Schwiete, H. E.
Stoltenberg, D. A. Filter press, P (4) 95*c*.
Stone, E. O., and Burroughs, F. L. Colorimeter, P (4) 96*j*.
Stone, F. S. See Everett, D. H.
Stone, P. A. See Harper, F. C.
Stone, R. L. Material testing apparatus and [thermal differential] method, P (11) 267*i*.
Stookey, S. D. Method of making ceramics and product thereof, P (6) 142*a*. Method of making a semicrystalline ceramic body, P (8) 190*a*. Opal glass, P (6) 137*c*. Photograph made on glass, P (4) 87*d*.
Stora Kopparbergs Bergslags Aktiebolag. Method of counteracting too high temperature attack on the furnace lining when melting and refining molten metal by means of oxygen containing gases in a rotary furnace, P (3) 62*a*. Sintered hard alloys, P (10) 235*g*.
Stourdzé Visconti, Y. See Nicot, B. N. F.
Stourdzé Visconti, Y., and Nicot, B. N. F. Further comments on tubular kaolin crystals, (7) 173*h*. Mullitization of tubular kaolin, (7) 175*e*.
Strassen, H. zur. See Pajenkamp, H.
Stratabar Process Co. Method and apparatus for producing molten silicates, P (2) 33*j*.
Strategic-Udy Metallurgical and Chemical Processes, Ltd. Process for the separation and recovery of iron and titania from ores and concentrates, P (3) 72*f*.
Streckebach, E. See Fischer, K.
Streiets, V. M., Kaminskii, V. E., and Belobragin, N. Z. Production of semiacid coking shapes by semidry pressing on friction presses, (6) 139*i*.
Strel'kova, I. S. See Mchedlov-Petrosyan, O. P.
Strelov, K. K., Aristov, G. G., and Saparov, V. V. Production of unfired magnesite-chromite arch brick, (3) 61*h*.
Stribuload, Inc. Structural panel construction, P (4) 84*a*.
Strimple, J. H. Ceramic frit composition, P (5) 108*g*.
Strivens, M. A. Formation of ceramic moldings, P (10) 239*c*.
Strong, H. M. Diamond synthesis, P (11) 249*h*. High temperature high pressure apparatus, P (11) 265*a*. Reaction vessel, P (11) 266*e*. See Hall, H. T.
Strong, H. M., Bundy, F. P., and Bovenkerk, H. P. Flat panel vacuum thermal insulation, (7) 156*i*.
Strong-Scott Mfg. Co. Pulverizing and classifying apparatus, P (10) 239*j*.
Structural Clay Products Research Foundation. Conveyer system, P (10) 231*f*. Guide for curved masonry walls, P (7) 159*h*. Method and means for veneer brick, P (7) 160*a*.
Strunk-Lichtenberg, G. See Ginsberg, H.
Struxness, E. G., Johnson, J. R., Morgan, K. Z., and McVay, T. N. Self sintering of radioactive wastes, P (5) 129*e*.
Stuart, J., II. See Cochrane, J. D., III.
Stubičan, V., Teža, S., and Wrischer, M. Properties of silicic acid in bentonites, (5) 127*b*.
Stull, V. R., and Plass, G. N. Emissivity of dispersed carbon particles, (6) 147*h*.
Stumpf, H. C. See Foster, L. M.
Stupishina, O. V. Strength of ceramic shell molds, (7) 161*a*.
Sturtevant Mill Co. Rotary pulverizer mill with flat face stator bars, P (5) 122*h*.
Stutske, W. A., and Sheets, T. C. Machine for sealing faceplates to cathode-ray tubes, P (11) 256*f*.
Stuyts, A. L., Hoekstra, A. H., Weber, G. H., and Rathenau, G. W. Making anisotropic permanent magnets, P (1) 13*d*.
Subbarao, E. C. Studies on lead titanate ceramics containing niobium or tantalum, (4) 92*f*. X-ray study of phase transitions in ferroelectric $PbNb_2O_6$ and related materials, (10) 246*b*.
Sucetti, G. Acoustical composition, P (6) 133*a*.
Suchocki, J. J. See Bowe, G. R.
Sudo, T. Cherty nodules associated with iron-manganese deposits in cherty rocks, (1) 17*g*. Mineralogical Study on Clays of Japan, B (4) 104*b*. See Oinuma, K.; Shimane, H.
Sücker, I. See Wiegmann, J.
Suga, A. M. Abrasive article, P (4) 81*g*.
Suga, F. See Murakami, K.
Sugimoto, M. See Takei, T.
Sugiura, M. See Hirai, M.; Ishii, E.; Sano, S.
Sugiura, M., Hirai, M., Ishii, E., and Sano, S. Forsterite porcelain as a high frequency insulator (II) synthesis of forsterite from siliceous stone [quartzite] and sea-water magnesia, (4) 90*b*; (VI) reaction products in silica rich system, (8) 193*i*.
Sugiura, M., Hirai, M., Sano, S., and Ishii, E. Forsterite porcelain as a high frequency insulator (III) properties of forsterite porcelain from siliceous stone [quartzite] and sea-water magnesia, (4) 90*j*.
Sugiura, M., and Ishii, E. Synthetic diopside porcelain as a high frequency insulator (I) synthesis of diopside, (3) 63*d*; (II) properties of diopside porcelain, (3) 63*f*.
Sugiura, M., Ishii, E., Sano, S., and Hirai, M. Forsterite porcelain as a high frequency insulator (V) effects of several rare element oxides, (4) 91*a*.
Sugiura, M., Sano, S., Ishii, E., and Hirai, M. Synthetic diopside porcelain as a high frequency insulator (III) properties of diopside porcelain (II), (3) 63*i*.
Sukhoverkhov, V. F. See Nikolaev, N. S.
Sulkhanov, M. B. See Solomin, N. V.
Sullivan, A. C. See Wilmot, R. C.
Sullivan, J. D. Method of applying a glass coating to steel by using an intermediate layer of nickelous oxide, P (10) 227*d*. See Deem, B.; Engdahl, R. B.
Sullivan, R. E. See Holderreed, F. L.
Sullivan, R. M. E. See Rose, H. E.
Sulzer Frères, Soc. Anon. Casting mold and method of casting carbon-containing alloys, P (11) 260*d*.
Sumner, G. G. See Cohen, A. J.; Granquist, W. T.
Sun, K.-H., Malmberg, P. R., and Pecjak, F. A. Fluorescent structures and method of manufacture, P (11) 255*d*.
Sun Oil Co. Polymerization of gaseous olefins by means of a catalyst consisting essentially of an oxygen treated bauxite, P (7) 167*g*. Preparation and use of acid activated clay, P (11) 269*g*. Process for catalyst preparation, P (1) 19*g*.
Sunagawa, I. See Tolansky, S.

Sundius, N. Feldspar and its influence on the reactions in ceramics during burning, (8) 200*e*. Temperature at which glass formation begins in feldspathic porcelain, (10) 236*a*.
Sundius, N., and Nordgren, H. Influence of admixtures of lime to ceramic bodies, (6) 141*j*.
Super-Cut, Inc. Cassette and holder therefor for back reflection cameras, P (2) 43*a*.
Surface Combustion Corp. Atmosphere furnace, P (5) 120*f*.
Surplice, N. A. Reversible poisoning by sulfur, oxygen, and other gases of oxide coated cathodes, (10) 237*f*.
Sutheim, G. M. See Speed, W. C.
Sutton, P. M. See Proctor, T. M.
Sutton, W. H. Apparatus for measuring thermal conductivity of ceramic and metallic materials to 1200°C., (3) 68*d*.
Suzukawa, S. See Watanabe, K.
Suzuki, H. Effects of clay binders on the oxidation of sintered silicon carbide bodies, (11) 258*j*. Study on the oxidation of silicon carbide powders (II) effects of steam on the oxidation of silicon carbide of various colors and crystal structures, (5) 113*e*; (III) effects of impurities on the oxidation, (10) 234*j*.
Suzuki, H., and Yamauchi, T. Effects of bonds of the K_2O–Al_2O_3–SiO_2 system on the oxidation of silicon carbide, (11) 258*i*.
Suzuki, S. Electron microscope studies on the aging of $Al(OH)_3$, (5) 125*a*. See Nakamura, M.
Suzuki, T., and Ochiai, Y. Removal of iron from ceramic raw materials by chlorine (II) effect of carbonaceous matter added in the ceramic raw material, (2) 44*e*.
Suzuki, T., and Tomizawa, S. Removal of iron from ceramic raw materials by chlorine (III) removal of iron and titanium from ceramic raw materials, (2) 44*f*.
Svec, J. All-ceramic block has good market potential with profit, (11) 273*e*.
Svensson, K. J. V. Procedure and means for the separation of solid materials of different specific gravities according to the sink-and-float method, P (5) 122*d*.
Sviridova, R. K. See Grum-Grzhimailo, S. V.
Swain, A. B. Glassmaking frit and method, P (6) 136*e*. See Beck, B. D., Sr.
Swallow, D. See Sing, K. S. W.
Swan, D. Science and technology—survival and well-being, (5) 129*h*.
Swanson, D. W. See Dimitroff, J. M.
Swartz, J. C., and Stalter, T. L. Development work on a one-coat white process for porcelain enameling, (7) 155*f*.
Swedlund, L. E. Cathode ray tube envelope, P (3) 58*b*.
Swenson, E. G. See Mather, B.
Swift, H. R., and Sharp, D. E. Glass composition P (3) 58*i*.
Swindell-Dressler Corp. Method and apparatus for salt glazing ceramic ware, P (11) 257*j*.
Swindler, R. L. Edge treating apparatus, P (7) 158*h*.
Swineford, A. (editor). Clays and Clay Minerals—Proceedings of the Sixth National Clay Conference on Clays and Clay Minerals (1957), B (9) 223*a*.
Switzer, J. L., and Parker, D. W., Jr. Fluorescent penetrant inspection materials and methods, P (5) 129*d*.
Switzer Bros., Inc. Fluorescent penetrant inspection materials and methods, P (5) 129*d*.
Swoboda, T. J. Alkali metal modified ferromagnetic chromium oxide, its preparation and use as the magnetic material of recording members, P (6) 143*a*. See Ingraham, J. N.
Sybertz, W. See Noll, W.
Sydow, H. See Fischer, K.
Sylvania Electric Products, Inc. Bulb to mount assembly, preheater, and transfer device, P (10) 230*c*. Colorimeter, P (4) 96*j*. Crystal orientation device, P (11) 267*a*. Curved electroluminescent lamp, P (1) 6*g*. Discharge lamp and phosphor, P (2) 32*h*. Electroluminescent phosphors, P (5) 117*h*. High dielectric constant glass, P (3) 58*c*. High pressure mercury vapor lamp, P (5) 112*b*. Lamp bulb feeder, P (5) 112*c*. Lens coating apparatus and process, P (4) 86*f*. Manufacture of semiconductive translating devices, P (9) 214*e*. Metering apparatus for material divided into small particles, P (5) 118*h*. Method of coating electric lamp envelopes, P (2) 34*f*, P (2) 34*g*. Method of making electroluminescent phosphors, P (5) 117*i*. Method of making a pressure filled [photoflash] lamp, P (5) 112*b*. Mica press ram with hydraulically operated punch and stripper means, P (4) 94*j*. Photoconductive devices, P (9) 214*i*. Sealing mechanism for evacuated vessels, P (6) 143*d*. Semiconductor devices and methods, P (2) 41*a*. Semiconductor mount and method, P (8) 195*g*.
Sylvest, K. J. See Keiding, P.
Synge-Hutchinson, P. Ehret's botanical designs on Chelsea porcelain, (2) 28*b*.
Synthetic Mica Corp. Method and apparatus for manufacturing synthetic mica, P (6) 146*b*.
Syntron Co. Heated liner for trough feeders, P (11) 265*b*. Vibratory feeder, P (5) 119*a*.
Syritskii, P. L. See Chernozubov, S. A.
Szabo, J. See Nagy, E.
Szabó, Z. G., and Solymosi, F. Change in catalytic activity and electrical conductivity of MgO-Cr_2O_3 during the formation of spinel, (5) 123*j*.
Szukiewicz, W. Hydraulic cement-polyurethane compositions useful for coating, sealing, patching, and surfacing, P (2) 29*a*.
Szulc, N. A., and Pugi, K. Glass needle valve, P (7) 158*i*.
Szymanski, H. See Primak, W.
Szymborski, W., and Pawlowski, S. Qualitative evaluation of the diffusion of Fe_2O_3 in quartzites and siliceous products by means of the radioactive tracer element ^{59}Fe, (5) 127*c*.

Tabachnik, H. See Hedley, N.
Taber, R. F. Instrument for testing [penetration] properties of materials, P (4) 97*b*.
Tabor, H. Z. Windows for admitting solar radiation, P (3) 70*a*.
Tachibana, S., Nakamura, M., and Koide, K. Mold for titanium casting (II) molding with graphite powder, (10) 233*d*.
Tackett, La/G. Design, (4) 82*b*.
Tada, N. See Soda, T.
Takada, T. See Goto, Y.
Takahashi, H. Effect of dry grinding on kaolin minerals, B (9) 223*d*. See Kinase, W.; Sawai, I.
Takahashi, K., and Otsuka, A. Titanium spinel pigments, (4) 84*c*.
Takamura, T. Crystallinity of silica gel revealed in the heat-capacity curve at moderately high temperatures, (5) 124*a*.
Takashima, H. See Kato, E.
Takei, T., Sugimoto, M., and Sekiguchi, S. Sintering of ferrites, (5) 116*g*.
Takemoto, K. See Naito, R.
Takemoto, K., Ito, I., and Hirayama, K. Keep grinding temperatures low, (5) 107*c*.
Takenouchi, H. See Arai, Y.
Talaš, J. See Khol, F.
Tanaka, H. See Murakami, K.
Tanaka, H., and Murakami, K. Electron microscope study of hardened gypsum, (7) 154*j*.
Tanaka, N. See Okuda, S.
Tanaka, T. Hydraulic properties of granulated blast-furnace slags (IV) strength development of quenched glassy slags in the system CaO–Al_2O_3–SiO_2, (5) 106*e*.
Tanaka, T., and Kikuchi, H. Hydraulic properties of granulated blast-furnace slags (V) relation between chemical composition of synthetic slags and strength, (5) 106*f*.
Tanaka, T., and Sakai, T. Hydraulic properties of granulated blast-furnace slags (VI) strength development of synthetic slags in the system CaO–Al_2O_3–SiO_2–MgO, (5) 106*f*.
Tanemura, F. See Ota, Z.
Taniguchi, N. Mechanical piercing method of precious stones and glasses (III) automatic repeated impact piercing machine, (5) 118*e*.
Taniguchi, S., and Yamamoto, M. Uniaxial anisotropy induced by magnetic annealing in ferrites, (7) 163*h*.
Tanisaki, S. Phase transition in tungsten trioxide, (3) 65*h*.
Tanner, W. F. Zigzag nature of type I and type IV cutves, (7) 181*i*.
Tarasova, T. I. See Nikulina, L. N.
Tarján, G. Settling velocity of solid grains in coarser dispersions, (11) 271*d*.
Tarkan, S. E., Lawendel, H. W., and Goetzel, C. G. Method for coating and infiltrating a porous refractory body, P (10) 235*d*.
Tarnacki, W. J. See Mazzarella, D. A.
Tasaki, J., Izushi, T., and Kajima, K. Preparation of magnetic ferrite (I) ferrite formation of precipitate from mixed solution of divalent metallic and ferric ions, (5) 116*h*.
Tashiro, M. Method for the continuous measurement of the high temperature heat content of glasses and of fused salts, (11) 254*f*. See Fgrland, T.; Maki, T.
Tashiro, M., and Sakka, S. Photosensitive glass—relation between exposure and transparency, (10) 228*f*.
Tatsaki, J. E. See Sherts, W. M.
Taubin, G. B., Romanchenko, K. G., and Pankratov, D. I. Manufacture of coke bottom Dinas with increased abrasion resistance, (3) 60*g*.
Taylor, A. J. See Johnson, J. R.
Taylor, B. See McClimont, W.
Taylor, H. E. Investigation of the dielectric relaxation exhibited by glass (II) soda-silica and soda-lime-silica glasses, (2) 31*f*.
Taylor, H. F. See Aitken, A.
Taylor, H. F. W. Dehydration of tobermorite, B (9) 223*f*. See Buckle, E. R.; Buttler, F. G.; Gard, J. A.
Taylor, H. U. See Roup, R. R.
Taylor, J. See Allison, E. B.
Taylor, J. H. Rotary kiln, P (3) 69*j*.
Taylor, J. R. Note on nickel in glazes, (6) 141*d*.
Taylor, L. B. Pigmented paper and preparation thereof, P (10) 242*h*.
Taylor, R. B. Future horizons or new frontiers for brick and tile, (11) 257*i*.
Taylor, R. B., Hubbard, S. E., and Johnson, P. V. Method and means for veneer brick, P (7) 160*a*.
Taylor, W. C. Process for producing cellular insulating materials, P (6) 133*d*.
Teale, R. W. See Harrison, F. W.
Tectum Corp. Process for steam treating magnesium cement fibrous panels, P (11) 252*c*.
Tefft, W. E. See Spinner, S.; Wachtman, J. B., Jr.
Teja, J. D. Aqueous dispersions of high molecular weight fibrils of amorphous silicates, P (5) 121*f*. Spinning nonfused glass fibers from an aqueous dispersion, P (3) 59*a*.
Tell-Tronics Products, Inc. Temperature measuring and indicating means, P (5) 119*h*.
Temescal Metallurgical Corp. Corrosion- and abrasion-resistant coated metals, P (3) 55*h*.
Terai, R. See Izumitani, T.
Teraoka, I., and Ito, S. Dehydration of slurries, (10) 232*h*. Study on the transition from liquid to solid with vibration viscometer, (2) 29*f*.
Terez, C. S. See Reynolds, K. W.
Terrier, P. See Alègre, R.
Tessmer, R. G. Mill, P (8) 196*g*.
Teter, J. W., Gring, J. L., and Erickson, H. Method of manufacturing catalysts, P (1) 18*f*. Preparation of silica-based catalysts, P (1) 19*e*.
Tetsilazit'-Stevanovit', M. See Grizo, A.
Texaco Development Corp. Ore beneficiation process and apparatus, P (5) 121*b*. Portland cement manufacture from oil shale, P (2) 29*e*.
Texaco Trinidad, Inc. Cementing composition, P (10) 226*b*.
Texas Instruments, Inc. Etching of semiconductor materials, P (7) 164*d*. Method of making ohmic connections to silicon semiconductor devices, P (8) 195*h*.
Teža, S. See Stubičan, V.
Thackray, R. W. See Murray, P.; Williams, J.
Thatcher, J. W. See Campbell, W. J.
Thayer, L. C., and Czuha, M., Jr. Method of oxygen analysis [in a gas sample], P (10) 246*a*.
Thayer, L. C., and Haagen-Smit, J. Oxygen analyzer, P (10) 246*b*.
Theis, A. Tests on zirconia-silica bricks for arc-furnace roofs, (3) 61*i*.
Thenner, F. See Ripeltauer, E.
Theokritoff, S. See Stanley, J. M.
Thermway Industries, Inc. Method of making a heating panel, P (10) 227*b*.
Thiele Kaolin Co. Method of dewatering clay, P (3) 71*j*.
Thien-Chi, N. See Huber, H.
Thien-Chi, N., and Plurien, P. Method of sealing a piece in one end of a tube made of a sintered material, P (5) 118*h*.
Thoma, R. E. See Weaver, C. F.
Thomaeus, I. G. R. See Malmqvist, J. D.
Thomann, H. See Hegemann, F.
Thomas, A. Gyratory crusher with upper inlet opening, P (8) 198*f*.
Thomas, A. G. See Barrett, L. R.; Stirland, D. J.
Thomas, D. A. See Averbach, B. L.
Thomas, D. G. A. See Phillips, J. W.
Thomas, D. K., and Baker, T. W. X-ray study of the factors causing variation in the heats of solution of magnesium oxide, (10) 246*a*.
Thomas, G. L. See Duncan, J. E.
Thomas, G. N. See Berkley, C.
Thomas, J. M. Method and apparatus for prolonging life of thermocouples, P (4) 97*b*.
Thomas, M. J. See Butler, K. H.
Thomas, M. J., and Butler, K. H. Discharge lamp and phosphor, P (2) 32*h*.
Thomas, R. D., and Burke, E. A. Electrostatic precipitator sample counter [for radioactive materials], P (4) 97*a*.
Thomas Electronics, Inc. [Luminescent] screen settling system, P (4) 86*h*. Method of improving adherence of luminescent screens, P (3) 59*c*.
Thompson, D. How to select and design brick-lined process equipment, (7) 162*g*.
Thompson, D. B. Miniature Sculpture from the Athenian Agora, B (6) 151*c*.
Thompson, D. S., and Roberts, J. P. Flow of magnesium oxide single crystals, (10) 244*e*.
Thompson, G. W. Filtration of titania hydrate, P (9) 218*f*.
Thompson, H. Method and composition for combatting slag formation on refractory surfaces, P (11) 260*g*.
Thompson, H. V. (editor). Direct routine determination of lime in magnesite and similar materials, (7) 172*f*.
Thompson, J. V., and Hoyl, A. G. Well drilling mud and method of making, P (10) 243*a*.
Thompson, M. W. Strength of silica glass after pile irradiation at +100° and −196°, (4) 85*j*.
Thompson, S. G. Precipitation method for the separation of plutonium and rare earths, P (8) 202*a*.
Thompson Ramo Wooldridge, Inc. Powder metallurgy, P (11) 261*d*.
Thomsen, A. M. Method of processing magnesium bearing brines, P (6) 140*g*.
Thomson, R. F. Self-lubricating shell molds, P (7) 161*j*.
Thorn, R. J. See Ackerman, R. J.
Thorn Electrical Industries, Ltd. Electroluminescent devices, P (5) 117*g*. Luminescent materials, P (5) 117*c*.
Thornhill, F. S. Method of preparing silica pigments, P (10) 241*g*.
Thornton, H. R. See Moore, D. G.
Threadgold, I M. Hydromuscovite with the $2M_2$ structure, from Mount Lyell, Tasmania, (6) 148*c*.
Thring, M. W. Principles of kiln design, (9) 217*b*.
Thuener, E. E., and Leibson, J. S. Method and apparatus for manufacturing ceramic insulator shapes, P (4) 91*d*.
Thurlow, G. G. See Godridge, A. M.
Thurnauer, H. See Nelson, K. E.
Tiede, R. L. Improved apparatus for rapid measurement of viscosity of glass at high temperatures, (1) 4*j*.
Tien, T. Y. See Hummel, F. A.
Tikhonova, L. A., and Glebov, S. V. Kyanite refractories based on Kelvsk rock, (9) 211*c*.
Tile Council of America, Inc. Apparatus for making tile panels, P (5) 115*f*. Hydraulic cement mortar compositions and methods of use, P (9) 205*b*.
Tillotson, W. T., and Easterday, F. W. Binder distribution and atomizing system for fiberizing apparatus, P (11) 251*c*.

Tilton, L. W. Structural and thermal expansions in alkali silicate binary glasses, (2) 32*b*.
Timefax Corp. Modified titanium dioxide and method of preparation, P (10) 242*e*.
Tindall, J. A. See Franklin, C. E. L.
Tingle, W. H., and Matocha, C. K. Spectrochemical analysis of nonmetallic samples—pellet-spark technique with a multichannel photoelectric spectrometer, (7) 179*e*.
Tinker, D. Commercial production of clay block in plant, (11) 257*e*.
Tisler, M. S. See Kirkman, P. J.
Titanium Metals Corp. of America. Beneficiation of titaniferous iron ores, P (8) 198*d*.
Titanium Zirconium Co., Inc. Glass polish and process of polishing glass, P (8) 189*d*.
Tkachuk, A. M. See Tolstoi, N. A.
Todd, B. J., Lineweaver, J. L., and Kerr, J. T. Outgassing caused by electron bombardment of glass, (7) 157*d*.
Todd, B. K. Container construction, P (5) 111*g*.
Todd, J. See Powell, R. J.
Toepfer, W. J., and Prendergast, J. R. Plunger removal chuck for insulator press, P (4) 87*e*.
Tokutake, H. See Nagai, S.
Tolansky, S., and Sunagawa, I. Interferometric studies on synthetic diamonds, (8) 200*h*. Spiral and other growth forms of synthetic diamonds—a distinction between natural and synthetic diamond, (4) 81*g*.
Toler, L. G., and Hower, J. Determination of mixed layering in glauconites by index of refraction, (7) 171*j*.
Tollefsrud, W. H. See Schramm, H. W.
Tolliday, J. Crystal structure of β-wollastonite, (4) 100*i*.
Tolly, D. B., and Schiefferle, J. A. Test for dry drawing alm application, (2) 30*j*.
Tolstoi, N. A., and Tkachuk, A. M. Investigation of the spectral distribution of the luminescence decay time of ruby by the pulse taumeter method, (7) 174*j*.
Tom, E. M. See Brookover, G. B.
Tomizawa, S. See Suzuki, T.
Tomlinson, J. W., Heynes, M. S. R., and Bockris, J. O'M. Structure of liquid silicates (II) molar volumes and expansivities, (8) 201*h*.
Tommelstad, E. See Foyn, K.
Topp, H. J. B. Apparatus for use in classifying or both classifying and drying loose material, P (4) 99*a*.
Torizuka, Y. See Fujimura, T.
Toropov, N. A. See Evstrop'ev, K. S.
Toropow, N. A. See Toropov, N. A.
Totti, A. Italian ceramists (VIII) Bruno Paoli, (6) 132*a*. Sadi Diren—a Turkish ceramist, (9) 203*j*.
Toulmin, H. A., Jr. Apparatus for forming solid structural members of glass fiber reinforced resin, P (10) 230*a*. Low water loss cement slurries comprising carboxymethyl dextran and salts thereof, P (2) 29*a*.
Touvay, R. Grinding and polishing of glass sheets, P (6) 136*f*.
Touvay, R., and Martin, P. T. Method and apparatus for polishing, P (11) 256*h*.
Towers, H. Contact angle measurements of slags on solid surfaces, (2) 35*d*. See Livey, D. T.
Toye, R., Shingler, T., and Moulding, P. Models as an aid to kiln design, (3) 69*f*.
Tozyldo, A. J. See Reuter, R.
Trans-Oceanic. Method of producing magnesia and calcium nitrate from dolomite, P (4) 100*f*.
Transitron Electronic Corp. Machine for cutting germanium, silicon, quartz, and other hard materials, P (5) 118*g*.
Traynor, E. J., Jr. Flexible bonded mica insulation, P (11) 263*j*.
Trebge, E., and Fischer, R. Investigations on glass electrodes with ^{24}Na, (11) 254*e*. Special investigations on glass electrodes with ^{24}Na with particular consideration of the alkali error, (9) 208*h*.
Tremper, B. See Lerch, W.
Tremper, B., Beardsley, C. W., Wakeman, C. M., Wright, P. S., Gibson, W. E., and Woolf, D. O. Alakli-aggregate reaction in concrete (I) field experience, (4) 82*h*.
Treptow, A. W., and Finneran, L. A. Paste for screen printing and firing copper on ceramic bases, (11) 263*i*.
Treufels, H. von. See Hecht, A.
Trewhella, S. W. See Scott, A. L.
Triebwasser, S. Behavior of ferroelectric $KNbO_3$ in the vicinity of the cubic-tetragonal transition, (1) 12*a*.
Trigg, W. M., and McBride, B. V. Method of coating magnetic sheet material, P (3) 66*h*.
Tripp, H. P. See King, B. W.
Trofimov, M. G. Resistant volume-stable magnesite-chromite lining for steel melting induction furnaces, (10) 233*j*.
Trombe, F., and Foëx, M. New method of preparing refractory materials for analysis, (2) 36*d*.
Tromp, K. F. Apparatus for separating granular materials having different specific gravities by means of a liquid, P (1) 17*f*.
Trought, M. E. See Wilmot, R. C.
Trout, R. G. See Long, L. L.
Trozell, G. E. See Klein, A.
Trudeau, U. P. Apparatus for delivering mold charges to a forming machine, P (7) 157*i*. See Denman, R. R.
Truell R., Klerk, J. de, and Levy, P. W. Ultrasonic neutron dosimeter, P (7) 182*a*.
Trunzo, F. F. See Sattler, F. A.
Trurnit, H. J. See Seehof, J. M.
Trushin, A. V. Plasticity of ceramic and refractory bodies, (11) 261*j*.
Tsaritsyn, M. A., and Bogdanova, G. S. Investigation of stress in cemented glass tile, (2) 31*i*.
Tsaritsyn, M. A., and Proshkina, A. I. New method of producing glass wall tile, (8) 188*j*.
Tsigler, V. D., Bovkun, S. S., Sidorenko, Yu. P., Gorfinkel, B. L., and Pazukha, P. I. Trial firing of coking Dinas in a tunnel kiln constructed by the All Union Institute of Refractories, (1) 16*g*.
Tsigler, V. D., Pindrik, B. E., Bovkun, S. S., and Sidorenko, Yu. P. Means of reducing scrap with standard Dinas brick fired in gas chamber kilns, (6) 138*f*.
Tsoi, R. I. See Brodskiĭ, Yu. A.; Gorodinskiĭ, G. M.
Tsuchihashi, S., and Nakatani, Y. Surface chemical studies of the polished surface of flint glasses, (10) 229*f*.
Tsuda, T. See Kaji, K.
Tsukino, M. See Ota, Z.
Tsuneyama, G., and Ozawa, T. Capillary water absorption of Portland cement mortar containing a large amount of blast-furnace slag, (7) 154*d*.
Tsyndrya, T. O. New technology of photoceramics, (1) 5*i*.
Tucker, G. E. See Chandler, H. P.; Gwinn, G. R.; Polo, T. de.
Tucker, L. G., Jr., and Kantor, A. J. Process of producing lightweight aggregate, P (11) 252*a*.
Tuddenham, W. M., and Lyon, R. J. P. Relation of infrared spectra and chemical analysis for some chlorites and related minerals, (4) 101*f*.
Tuleff, M. Behavior of clays during drying, (5) 118*d*.
Tully, J. N. See Olson, C. M.
Tumanov, S. G. See El'kinson, R. Z.
Tung-Sol Electric, Inc. Cold cathode for electron discharge devices, P (11) 263*f*. Cold cathode vacuum lamp, P (7) 155*e*.
Turkdogan, E. T., and Hancock, R. A. Equilibrium measurements between carbon-saturated Mn-Fe-Si melts and CaO-Al_2O_3-MnO-SiO_2 slags, (7) 172*i*.
Turnbull, D. See Doremus, R. H.
Turnbull, D., and Cohen, M. H. Reconstructive transformation and formation of glass, (1) 5*c*.
Turnbull, F. W. Method of enameling the interior of hollow metal bodies, P (4) 84*g*.
Turner, A. See Smith, R. K.
Turner, F., and Dillon, E. T. Beneficiated clay compositions and method of beneficiating clay, P (11) 268*d*.
Turner, P. J. A., and Brown, T. G. Light sensitive devices, P (6) 144*i*.
Turner, W. E. S. Studies in ancient glasses and glassmaking processes (VI) composition and physical characteristics of the glasses of the Portland vase, (6) 132*c*.
Turobinski, T. J. Method of growing synthetic quartz, P (9) 222*b*. See Jaffe, H.
Turov, E. A. See Vonsovsky, S. V.
Turpin, A. J. See Schreter, R. E.
Tuzi, Y. See Okamoto, H.
Tuzi, Y., and Okamoto, H. Adsorption of water vapor on lead borosilicate glass in vacuum, (5) 100*d*.
Tyer and Co., Ltd. Apparatus for detecting flaws in protective coatings, P (5) 119*c*.
Tykachinskii, I. D., and Obidins, S. P. Effect of fluorine on the processes taking place during the heating of alkali-free batches, (9) 206*h*.
Tyler, W. S., Co. Screen, P (4) 96*a*. Screen deck structure, P (4) 96*c*. Vibrating screening apparatus, P (7) 165*e*.
Tyrrell, M. E. See Pigott, P. G.
Tyson, C. H. Sealing mechanism for evacuated vessels, P (6) 143*d*.
Tyurin, Yu. M. See Brodskiĭ, Yu. A.

Ubbelohde, A. R. See Blackman, L. C. F.
Ubbelohde, A. R., Blackman, L. C. F., and Mathews, J. F. Metallic compounds in the crystal compounds of graphite, (7) 175*a*.
Uchida, E. Note on the ferromagnetism of CoTe, (7) 163*i*.
Uchida, E., and Kondoh, H. Magnetic properties of nickel telluride, (3) 64*j*.
Uchida, E., Kondoh, H., and Fukuoka, N. Magnetic and electrical properties of manganese telluride, (6) 142*j*.
Uchikawa, H. See Naito, R.
Uchiyama, A. A. See Stern, D. R.
Udagawa, S. See Brindley, G. W.
U.D. Engineering Co., Ltd. Apparatus for detecting foreign bodies in transparent vessels, P (11) 267*c*.
Udy, M. J. Process for the separation and recovery of iron and titania from ores and concentrates, P (3) 72*f*.
Ueda, I. See Okazaki, A.
Ueda, R. See Kobayashi, J.
Uei, I. See Nakazawa, Y.
Ueltz, H. F. G. Processes and anodes for the electrolytic extraction of the metals Ti, V, Cr, Zr, Nb, Mo, Hf, Ta, and W from their carbides, P (5) 122*e*.
Ueta, M., and Ishii, T. Luminescence of KI·Tl induced by far ultraviolet light, (2) 39*f*.
Uetsuki, T. See Nakazawa, Y.
Ugai, M. See Kodama, T.
Ugolotti, B. M. Nativity groups, (6) 132*b*.
Uhrus, L. O. See Andersson, H.
Ulfstedt, L. T., and Bengtsson, B. F. J. Process for manufacturing steam-cured lightweight concrete with low shrinkage, P (1) 3*d*.
Ullmann, W. Method of detaching material by electric erosion, P (1) 21*f*.
Ullmann, W., and Ehrlich, W. Electrocorrosive grinding method and device for its performance, P (5) 118*f*.
Ulrich, H. Process of purifying graphite, P (5) 122*i*.
Umblia, E. Problems related to silicone treatment of glass, (5) 110*g*.
Unice, R. C. See Grabowski, R. J.
Union Asbestos & Rubber Co. Device and method for exfoliating and blending asbestos fibers, P (4) 99*a*.
Union Carbide Corp. Abrasive articles and method of making, P (3) 52*a*. Automatic liquid feeding system in a flame spectrophotometer, P (11) 273*b*. Carbon–carbon boron thermocouple, P (11) 267*e*. Cermets with high impact strength, P (5) 114*c*. Furnace construction for high temperature purification of carbonaceous bodies in halogen-containing gases, P (4) 89*j*. Irradiated concrete compositions, P (5) 107*j*. Jet flame spraying method and apparatus, P (5) 108*i*. Limekiln, P (8) 186*b*. Manufacture of flexible metal-coated glass filaments, P (10) 230*e*. Metalloceramic preparations, P (10) 241*a*. Method of and apparatus for powder elutriation, P (10) 239*g*. Method for the production of aluminum carbide, P (10) 241*j*. Opaque glass, P (11) 252*d*. Oxidation resistant articles, P (3) 62*f*. Oxidation resistant graphite and method for making, P (4) 89*g*. Production of boron nitride, P (6) 140*h*. Production of high purity titanium boride, P (3) 63*a*. Purification of titanium boride, P (5) 105*f*. Purification of titanium tetrachloride, P (7) 168*d*. Selective infrared gas analyzer, P (8) 197*c*. Silent electric discharge light source, P (10) 246*c*.
Union Oil Co. of California. Desulfurization process and catalyst, P (4) 99*a*.
Unit Process Assemblies, Inc. Probe for a thickness testing gauge, P (8) 197*b*.
United States Acoustics Corp. Mixing apparatus, P (2) 42*a*.
United States of America, Administrator of the National Aeronautics and Space Administration. Process of casting heavy slips, P (11) 266*b*.
United States of America, Secretary of Agriculture. Spray-drying apparatus, P (4) 96*a*.
United States of America, Secretary of the Air Force. Apparatus for automatically coating ceramic rods with metal or metal alloy by thermal evaporation, P (2) 41*c*. Apparatus for growing crystals, P (3) 79*f*. Electrostatic precipitator sample counter [for radioactive materials], P (4) 97*a*. Growth of crystals [CdS or ZnS], P (11) 273*d*. Pendulum type spectrograph, P (8) 197*a*. Salt crystal-to-glass seal, P (4) 94*g*. Stabilization of zirconia, P (5) 114*g*.
United States of America, Secretary of the Army. Apparatus for automatically counting and sizing airborne particles, P (6) 144*g*. Insulated electrode, P (3) 66*c*. Method for constructing a barium titanate blast velocity gauge, P (4) 93*j*. Method of fabricating a synthetic quartz crystal, P (10) 238*e*. Method of making silicon carbide rectifiers, P (8) 195*a*. Piezoelectric ceramic resonators, P (11) 264*b*. Reconstituted synthetic mica and process of making, P (9) 218*f*.
United States of America, Secretary of Commerce. Cements from metal oxides and chelating agents, P (9) 205*a*. Plastic film abrasive sheet, P (9) 203*f*.
United States of America, Secretary of Health, Education, and Welfare. Method of producing tissue culture flasks, P (11) 256*c*.
United States of America, Secretary of the Interior. Impact resistant ceramic dielectric and method of making, P (8) 195*d*. Impact-resistant ceramics from synthetic fluoramphiboles and process of making, P (11) 262*e*.
United States of America, Secretary of the Navy. Apparatus for glass-to-metal sealing, P (8) 188*j*. Apparatus for measuring abrasion resistance, P (3) 68*i*. Ceramic wafer electronic tube, P (4) 93*f*. Method of forming thin films of barium titanate, P (6) 143*a*. Testing and sorting device for miniature [magnetic] cores, P (6) 143*e*.
United States of America, U. S. Atomic Energy Commission. Apparatus for cleaning gases with electrostatically charged particles, P (7) 164*j*. Apparatus for handling mixtures of solid materials, P (2) 41*f*. Continuous gas analyzer, P (7) 165*j*. Granulation method, P (8) 196*b*. High pressure dies, P (10) 239*e*. Metathesis of plutonium carrier lanthanum fluoride precipitate with an alkali, P (9) 222*a*. Method for coating graphite with metallic carbides, P (8) 192*g*. Method of coating graphite with stable metal carbides and nitrides, P (4) 89*d*. Method of disintegrating refractory bodies, P (1) 10*a*. Method of forming a protective coating on ferrous metal surfaces, P (7) 155*b*. Method of increasing the dispersibility of slurry particles, P (5) 129*d*. Method of making refractory bodies, P (10) 235*f*. Method of making UO_2-Bi slurries, P (9) 222*c*. Method of making wire fuel elements, P (11) 252*g*. Method for preparation of UO_2 particles, P (3) 62*c*. Method of preparing a fuel element for a nuclear reactor, P (1) 10*b*. Method of preparing metal fluorides, P (1) 10*c*. Method for producing cemented carbide articles, P (1) 10*d*. Method for producing thorium tetrachloride, P (7) 167*d*.

Method of protecting tantalum crucibles against reaction with molten uranium, P (11) 261*b*. Method for the recovery of cesium values, P (7) 182*a*. Method for soldering normally nonsolderable articles, P (4) 94*g*. Molten fluoride nuclear reactor fuel, P (5) 114*a*. Precipitation method for the separation of plutonium and rare earths, P (8) 202*a*. Preparation of high density UO_2, P (3) 62*g*. Preparation of uranium trioxide, P (3) 72*b*. Process for coloring diamonds, P (11) 273*d*. Process of oxidizing plutonium, P (1) 21*j*. Process for separating plutonium by repeated precipitation with amphoteric hydroxide carriers, P (8) 202*c*. Process of separating zirconium values from hafnium values by solvent extraction with an alkyl phosphate, P (6) 149*d*. Production of thorium fluoride, P (1) 10*a*. Recovery of uranium values from residues, P (1) 19*f*. Refractory die for extruding uranium, P (1) 10*b*. Salicylate process for thorium separation from rare earths, P (1) 22*a*. Self sintering of radioactive wastes, P (5) 129*e*. Single-step conversion of UO_3 to UF_4, P (11) 273*c*. Slip casting method, P (2) 37*f*. Ultrasonic neutron dosimeter, P (7) 182*a*.

United States Bureau of Mines. Mineral facts and problems, 1960, (11) 268*d*. Minerals Yearbook, 1958: Vol. I, Metals and Minerals (Except Fuels); Vol. III, Area Reports, B (7) 183*j*.

United States Ceramic Tile Co. Ceramic tile, P (3) 52*d*. Saggers, P (7) 161*i*.

United States Gypsum Co. Binder distribution and atomizing system for fiberizing apparatus, P (11) 251*c*. Calcination of gypsum, P (4) 83*c*. Process of calcining gypsum, P (4) 83*c*. Process for the production of high strength low consistency calcined gypsum, P (5) 108*c*.

United States Steel Corp. Automatic self-centering pulleys for belt conveyers, P (5) 118*e*. Method for protecting refractory lining of a high temperature furnace, P (4) 89*e*. Method of retarding disintegration of blast-furnace lining, P (4) 89*f*. Sectional hot top, P (2) 37*e*. Slotted hot top, P (4) 90*c*.

Universal Oil Products Co. Catalyst manufacture, P (1) 17*j*. Manufacture and use of supported molybdenum-containing catalysts, P (3) 71*h*.

University of California, Regents of. Method and apparatus for sorting objects according to color, P (8) 197*c*.

Untracht, O. Crystalline stoneware glazes, (9) 203*i*.

Upboff, W. See Juza, R.

Uphues, F. P. Research and design of Crane plumbing fixtures, (8) 185*i*.

Upton, L. O. Absorptive glasses and method of making, P (4) 85*i*.

Urey, H. C. Origin of tektites, (4) 101*h*.

Urnes, S. Electrical conductivity in molten alkali silicates, (9) 206*f*.

Urquhart, H. M. A., and Goldman, J. E. Magnetostrictive effects in an antiferromagnetic hematite crystal, (7) 174*f*.

Usami, S. See Funatogawa, Z.

Utley, H. F. Quick method for estimating alumina in silica sands, (7) 177*c*.

Uveges, J. See Dunay, S.

Vachet, M. P. Beryllium, (1) 17*f*.

Vaish, V. K. See Ram, A.

Vallak, E. Hot tops, P (11) 260*a*.

Vallejo-Freire, A. See Watson, J. H. L.

Van Ackeren, W. See Schüffler, J.

Vandenbelt, J. M. Collaborative readings with the Cary-14 spectrophotometer, (5) 119*b*.

Van Der Beck, R. R., Jr. Silicon carbide resistance bodies and method of making, P (4) 90*b*. Silicon carbide resistor bodies, P (10) 238*j*.

Van Hook, H. J., and Keith, M. L. System Fe_2O_3–Mn_2O_3, (3) 78*j*.

Van Luik, F. W., Jr. Device for direct measurement of relative humidity, P (4) 97*a*.

Van Niekerk, J. N. Vacuum furnace for high temperature X-ray diffractometry, (8) 197*f*.

Van Orden, H. E. See Gregor, J. R.

Van Raalte, T. L. Refractive indices of fused quartz and lithium fluoride, (6) 148*g*.

Van Sant, J. N. Refractory-clay deposits of Colorado, (6) 146*d*.

Van Valkenburg, A. See Bunting, E. N.; Weir, C. E.

Van Valkenburg, A., and Rynders, G. F. Synthetic cuspidine, (3) 78*h*.

Van Vlack, L. H. Elements of Materials Science, B (4) 104*b*. Microstructure of silica in the presence of iron oxide, (4) 88*i*.

Van Vorst, W. D. See Knapp, W. J.

Vapor Heating Corp. Variable resistance device, P (3) 67*b*.

Vard Products, Inc. Molecular mass spectrometer, P (9) 216*j*.

Vargo, P. See Schoenoff, W. P.

Varshney, Y. P. See Ram, A.

Vasilos, T. Hot pressing of fused silica, (11) 270*i*.

Vassiliou, B. E. See Roberts, E. W.

Vaughan, F. Effect of heat on kandite-containing clays, (7) 172*b*. See Bennett, H.

Vaughan, F., Harrison, R., and Dinsdale, A. Change in size occurring early in the setting of Portland cement mortars, (8) 185*j*.

Vaughan, R. T. Method of fabricating semiconductive devices, etc., P (9) 214*f*

Veale, J. H. See Ekedahl, J. C.

VEB Fettchemie Karl-Marx-Stadt. Oxidation process, P (6) 146*h*.

VEB Funkwerk Erfurt. Metal-coated ceramic article and process for producing, P (7) 161*d*.

Veith, H. Semiconductor arrangement, P (4) 94*h*.

Veleker, T. J., and Dyck, R. Spectrographic determination of aluminum, iron, potassium, and silicon in tungstic oxide, (3) 77*f*.

Velev, D. S. Glass tank turbulence investigated in a model, (10) 228*d*. Model investigation of coefficients of friction of boundary devices in glass tanks, (10) 228*f*.

Velikanova, E. I. See Vidro, L. I.

Velonis, A. Method of forming a raised metallic design on a vitreous surface, P (6) 136*f*.

Venable, C. R., Jr. Heat exchange pebbles, P (2) 37*f*.

Venema, A. Measurement of capacity of a vacuum pump, (3) 67*i*.

Venema, A., and Bandringa, M. Production and measurement of ultrahigh vacua, (10) 240*d*.

Venuat, M. Influence of aging in air of clinkers and cements on their physical and mechanical properties, (5) 106*i*. Study of the behavior of colored cements, (5) 107*d*. See Feret, L.

Vereinigte Aluminium-Werke, A.-G. Method for reducing the silica content of alumina-containing materials of the bauxite type, P (10) 242*d*. Method for reducing the silica content of alumina-containing materials of the clay type, P (10) 242*b*.

Veres, F. Glass-to-glass seal, P (8) 189*c*. Glass-to-metal seals for cathode-ray tubes, P (6) 143*h*. Laminated joint for glass parts and method of sealing, P (9) 209*j*.

Veress, Z. See Csordás, I.

Verhoogen, J. Physical properties and bond type in Mg-Al oxides and silicates, (3) 77*b*.

Vermilyea, D. A. See Bean, C. P.

Verna, M. See Pequignot, M.

Verweij, E. J. W. See Elings, G. A.

Veselova, Z. I. See Keler, E. K.

Vetter, H. Clay and quartzite deposits of the Middle Rhine, (6) 145*j*.

Vibro Corp. of America. Method of making a grinding tool, P (1) 1*f*.

Vick, F. A. See Hopkins, B. J.

Vickery, R. C. Production of $Ca(H_2PO_4)_2$, P (5) 122*a*.

Vidro, L. I., Gorelova, M. N., and Velikanova, E. I. Rational cycle for primary annealing of glass parts, (6) 135*c*.

Viehweger, F. Recipe Book for Glazes and Colors, B (7) 183*j*.

Vielhaber, L. Enameling Technique, B (4) 104*h*.

Vigliatura, L. E., Jr. Heat-resistant abrasive wheels, P (11) 249*j*.

Villa, J. J. See Cleek, G. W.

Vilnis, K. K. Heat economy of sectionalized regenerators, (8) 197*e*.

Vilnis, K. K., Pollyak, V. V., and Soskova, V. D. Apparatus for deep sampling in glasses, (10) 227*c*.

Vilnis, K. K., and Stepanenko, M. G. Heat transfer between the batch and flame region of glass furnaces, (6) 134*g*.

Vincent, H. B. Full vision cathode ray tubes, P (3) 58*c*. Glass-to-metal seals in cathode-ray tubes, P (1) 6*j*. See McDavitt, M.

Vinogradova, L. V., Rutman, D. S., Poluboyarinov, D. N., and Popil'skii, R. Ya. Trial production of thermally stable mullite-corundum brick at the Podol'sk refractories plant, (2) 36*d*.

Virkus, R. M. See Anthony, M. L.

Visconti, Y. S. See Stourdzé Visconti, Y.

Vissy, L. See Csordás, I.

Vitro Corp. of America. Electrophoretic coatings and compositions, P (3) 55*i*. Uranium dioxide impregnated compacts and method for making, P (10) 235*i*. Vitreous enamel compositions for aluminum and its alloys, P (4) 84*d*.

Vivante, C. See Cini, L.

Vladychenskaya, V. V., and Zubkov, K. E. Improved construction of molds for ramming plungers and bushings, (6) 138*b*.

Vlies, G. S. van der. See Moscou, L.

Vlisidis, A. C. See Glass, J. J.

Vodicka, V. See Malinowski, R. F.; Malm, R. N.

Vodop'yanov, G. V. See Bluvshtein, M. N.

Vogel, E. Effect of fluorspar and pyrites on the course of reaction of cement raw meals below 1100°C., (6) 132*h*.

Vogel, R. C. See Larsen, R. P.

Vogel, R. F. New sedimentation balance, (6) 144*g*.

Vogel, W. New knowledge on glass structure, (3) 57*a*. See Krause, H.

Vogel, W., and Gerth, K. Structure of fluoride glasses (II) glass systems MgF_2–BeF_2, CaF_2–BeF_2, and SrF_2–BeF_2, (5) 111*f*; (III) ternary alkali–alkaline earth–beryllium fluoride glass systems, MgF_2, CaF_2, SrF_2, BaF_2–KF–BeF_2; MgF_2, CaF_2, SrF_2–NaF–BeF_2; MgF_2–LiF–BeF_2, (5) 111*h*; (IV) crystallization phenomena, (5) 111*j*.

Vogelpohl, R. L. See Mayhew, R. W.

Voinovitch, I. A. Spectrochemical analysis of silicates, (5) 127*g*. See Debras, J.

Vol'f, E. See Ariya, S. M.

Volk, J. Pressure hydrated lime, P (2) 29*g*.

Vol'nov, I. I., Chamova, V. N., and Latysheva, E. I. Synthesis of superoxides of alkaline earth metals (III) formation of $Ca(O_2)_2$ from $CaO_2 \cdot 2H_2O_2$, (9) 221*g*.

Vol'nov, I. I., Chamova, V. N., Sergeeva, V. P., and Latysheva, E. I. Synthesis of superoxides of alkaline earth metals (I) interaction of $CaO_2 \cdot 8H_2O$ with perhydrol at 100°, (9) 221*e*.

Vol'nov, I. I., and Latysheva, E. I. Synthesis of superoxides of alkaline earth metals (II) formation of $Sr(O_2)_2$ from $SrO_2 \cdot 2H_2O_2$, (9) 221*f*; (IV) formation of $Ba(O_2)_2$ from $BaO_2 \cdot 2H_2O_2$, (9) 221*h*.

Volochine, T. Pyrometer, P (4) 97*c*.

Volynskii, E. A. See Bluvshtein, M. N.

Vong, T. S. See Levengood, W. C.

Vonnegut, B. Glass fiberization method, P (5) 112*a*.

Vonsovsky, S. V., and Turov, E. A. Some problems of phenomenological theory of ferro- and antiferromagnetism, (1) 13*f*.

Vopelius, F. von. See Zachacke, F. H.

Voss, W. G., and Ellinger, F. C. Porcelain enamels, P (2) 30*h*.

Vosseller, G. V. Charts to help estimate particle properties, (1) 14*j*.

Votava, E. Oriented overgrowth of platinum on muscovite, (9) 220*j*.

Vries, D. A. de, and Peck, A. J. Cylindrical probe method of measuring thermal conductivity with special reference to soils (II) analysis of moisture effects, (7) 170*f*.

Vulcan Iron Works. Rotary kiln, P (3) 69*j*.

Vydrik, G. A. Effect of comminution of technical alumina on the sintering of corundum bodies, (7) 162*d*.

Vytrisal, F. L. Human guidance, a demand of our times, (9) 222*e*.

Wachtman, J. B., Jr., Tefft, W. E., Lam, D. G., Jr., and Stinchfield, R. P. Elastic constants of synthetic single-crystal corundum at room temperature, (7) 172*g*.

Wachtsmuth, F. Brick ceilings in art of the Orient, (1) 1*j*.

Wack, F. W. Device for observing kiln temperatures, P (3) 69*f*. Rail lock for transfer cars, P (5) 120*f*.

Wada, K. Interlayer complex of halloysite with ammonium chloride, (7) 174*e*. Oriented penetration of ionic compounds between the silicate layers of halloysite, (3) 76*i*.

Wadsley, A. D. See Graham, J.; McTaggart, F. K.

Wadsworth, M. E. See Jorgensen, P. J.

Waeser, B. Adsorption, (5) 123*a*.

Wagner, F. C. Sintering of metal elements, P (7) 162*b*.

Wagner, G., and Binder, H. Investigations of the binary systems BaO–SnO_2 and BaO–PbO_2 (I) phase analysis, (7) 174*g*; (II) determination of the crystal structure, (7) 174*h*.

Wagner, H. B. Hydraulic cement mortar compositions and methods of use, P (9) 205*b*.

Wagner, H. C. Zirconia stabilization control, P (9) 213*f*.

Wagner, W., Hull, C. J., and Mankle, G. E. Advanced Analytical Chemistry, B (1) 22*g*.

Wagner, W. E. See Marini, H. R.

Wagner & Englert G.m.b.H. Grinding wheel, P (4) 81*h*.

Wahler, W. New test sieving machine, using the air stream method, for any number of fractions, (9) 216*i*.

Wainer, E. Electrodes and methods of making, P (10) 238*i*. Method of making ceramic dielectric, P (11) 264*b*. Preparation of rutile from ilmenite, P (5) 122*a*. Production of titanium dioxide, P (10) 242*d*.

Wainoff, G. See Juza, R.

Wakefield, D. A. See Proett, R. B.

Wakeman, C. M. See Tremper, B.

Wald, H. Electric measuring device for mixed air temperature, P (11) 267*a*.

Walker, F. Mold making (I, II), (7) 153*j*; (III) fluted tread mold, (8) 185*h*; (IV) channel mold; (V) urinal back slab 36 x 24 in., (9) 213*g*; (VI) small laboratory sink mold, (11) 261*j*; (VII) fire-clay drainer, (11) 261*j*.

Walker, G. F. Diffusion of exchangeable cations in vermiculite, (8) 200*i*. Reactions of expanding lattice clay minerals with glycerol and ethylene glycol, (3) 77*f*.

Walker, R. F., and Diamond, J. J. IUPAC Commission on high temperatures and refractories, (8) 191*i*.

Walker, S., and Bloem, D. L. Variations in Portland cement, (9) 204*i*.

Walker, W. R. See Evans, S. O.

Wallace, R. T. Molded articles having molding seams, etc., formed on the base thereof, P (9) 209*g*.

Wallace & Tiernan, Inc. Apparatus for treating sodium silicate to produce a silica sol, P (9) 216*c*. Viscosity control method and apparatus for hydrating lime, P (2) 29*h*.

Walley, J. Pressing of articles from powdered materials, P (10) 236*f*.

Wallis, L., Wheeler, W. H., and Giemza, C. H. Laminated thermal insulation, P (7) 155*g*.

Wallis, T. E. Analytical Microscopy, B (1) 22*g*.

Walsh, P. N., Goldstein, H. W., and White, D. Vaporization of rare earths, (6) 149*a*.

Walsh Refractories Corp. Fused cast refractory, P (5) 114*f*.

Walter, G. See Rüdorff, W.

Walter, L. Instrumentation in the glass industry in Great Britain, (8) 188*h*.

Walters, E. L., and Miller, A. H. Automatic glass cutting machine, P (11) 255*i*.

Walton, W. H. Brittle materials, (7) 169*a*. See Phillips, J. W.

Wampler, R. W., and Griss, C. H. Apparatus for washing curved sheets, P (6) 136*b*.

Wang, K.-C., Dreger, L. H., Dadape, V. V., and Margrave, J. L. Sublimation of Cr_2O_3 at high temperatures, (11) 272*f*.

Wanie, W. Ceramic wall tile (III) glazes, (6) 140*j*.
Wanner, E. F. Filter blocks, P (8) 190*i*.
Wannier, G. H. Elements of Solid State Theory, B (5) 129*j*.
Ward, S. G. See Higginbotham, G. H.; Oliver, D. R.
Ward, W. M., and Ashley, J. Spectrophotometric system, P (11) 273*d*.
Warden, C. B. See Slayter, G.
Wardlaw, J. See Alexander, K. M.
Wardley, J. Formation of conducting layers, P (4) 86*j*.
Warf, J. C. Quantitative Analysis, B (2) 50*g*.
Wargo, P., and Shepherd, W. G. Electron-bombardment-induced dissociation of alkaline earth oxides, (10) 244*b*.
Warkentin, B. P. Conductometric titration of acid montmorillonite suspensions, (5) 123*i*. See Bolt, G. H.
Warner, A. W. See Bömmel, H. E.
Warnock, F. V. Strength of Materials, B (1) 25*i*.
Warren, E. F. See Kay, S.
Warshaw, I. Structural implications of the electron microscopy of glass surfaces, (2) 32*a*.
Wartenberg, H. v. Heat of formation of La_2O_3 and $La(OH)_3$, (5) 125*f*.
Washington Brick Co. Molded block stripping mechanism, P (8) 190*j*.
Wasilik, J. H. Anisotropic relaxation peak in the internal friction of crystalline quartz, (10) 243*e*.
Wasserman, C. Electrical precipitator, P (7) 165*a*.
Wasserman, M. Photoconductive devices, P (9) 214*i*.
Watabe, Y. See Honjo, T.
Watanabe, A. See Naruse, A.
Watanabe, H. Magnetic properties of perovskites containing strontium (I) strontium-rich ferrites and cobaltites, (3) 65*b*.
Watanabe, K., Nakamura, S., and Suzukawa, S. Air permeability of concrete, (2) 28*e*.
Watanabe, K., and Sasaki, T. Corrosion of iron in calcium hydroxide solution and in cement mortar, (11) 250*i*.
Watanabe, M., Noake, H., and Aiba, T. Electron micrographs of some borosilicate glasses and their internal structure, (1) 4*g*.
Waterman, W. W. Preparation of an oxidation catalyst, P (3) 72*a*.
Waterproofing Materials, Inc. Cementitious structural materials, P (1) 3*c*.
Waters, E. H. See Hoaking, J. S.
Watkins, C. A. See Wiles, J. H.
Watkins, C. H., and Rosset, A. J. de. Manufacture and use of supported molybdenum-containing catalysts, P (3) 71*h*.
Watkins, G. E., and Pond, L. N. Glassworking machine, P (2) 33*a*.
Watkins, J. S., Jr. Graphs for the elimination of the Hartmann Net in the determination of refractive indices in high dispersion media, (3) 75*b*.
Watrous, D. L. Optical pyrometer apparatus, P (7) 166*d*.
Watson, J. E. Method of making synthetic quartz cat's-eye gem, P (11) 256*b*.
Watson, J. H. L., Vallejo-Freire, A., Souza Santos, P. de, and Parsons, J. Fine structure and properties of fibrous alumina, (5) 120*j*.
Watt, L. A. K., and Morrish, A. H. Comparison of the critical single-domain size for Fe_2O_3 and γ-Fe_2O_3, (10) 237*e*.
Watts, A. J. C. Full-scale experiments on the addition of pulverized fuel ash in brick-making, (1) 7*a*.
Watts, C. H. Investment material for precision casting, P (7) 161*b*.
Watts, H. Etch pits on calcite cleavage faces, (8) 200*c*.
Watts, H. L. Volumetric determination of aluminum in presence of iron, titanium, calcium, silicon, and other impurities, (7) 181*d*.
Watzek, O., and Hübscher, M. Progress in qualitative and quantitative chemical analysis of glass defects, (10) 228*j*.
Waye, B. E. Ceramics in engineering, (8) 193*f*.
Weaver, C. See Benjamin, P.
Weaver, C. E. Clay petrology of sediments, B (9) 223*i*. Effects and geologic significance of potassium "fixation" by expandable clay minerals derived from muscovite, biotite, chlorite, and volcanic material, (3) 74*i*.
Weaver, C. F., Thoma, R. E., Insley, H., and Friedman, H. A. Phase equilibria in the systems UF_4–ThF_4 and LiF–UF_4–ThF_4, (5) 126*d*.
Weaver, D. E. See Budd, C. B.
Weaver, E. P. See Hubbell, D. S.
Webb, J. M. Refractory molds, P (5) 114*d*. See Mellen, E. J., Jr.
Webb, T. L. Differential thermal and hydration calorimetric methods of determining the reactivity of calcium oxide, (7) 172*c*.
Weber, A. Continuous combustion gas analysis as control factor, (5) 120*c*. Sedimentation scales, an automatic means of investigating particle size, (11) 266*j*.
Weber, A. H. See Breen, R. J.
Weber, B. C. See Rizzo, H. F.
Weber, C. W. See Katz, S.
Weber, D. Low temperature, directional, spectral emissivity of translucent solids, (11) 266*f*.
Weber, G. H. Device for molding anisotropic permanent magnets, P (3) 65*f*. Method of magnetizing an anisotropic permanent magnet, P (7) 164*a*. See Stuyts, A. L.
Weber, H. Stabilization of yellow crystalline Sn(II) hydroxide by silicic acid, (5) 128*a*.
Weber, H. L. See Hoopes, H. P.
Weber, T. W. See Hessinger, P. S.
Weber, U. v. See Börnert, H.
Weblus, B. Colloidal dispersion of clays, (5) 123*c*.
Wedepohl, P. T. See Custers, J. F. H.
Weeks, J. R. See Schweitzer, D. G.
Weeks, L. W. Magic memory solves raw mix problems, (10) 246*f*.
Weeks, R. A. See Nelson, C. M.
Weeks, R. A., and Nelson, C. M. Trapped electrons in irradiated quartz and silica (II) electron spin resonance, (9) 208*e*.
Wegener, W. See Hartmann, H.
Wehrmann, R. F., and Klur, S. Method of forming titanium silicide refractory articles, P (6) 140*d*.
Wehrmann, R. F., Yntema, L. F., and Campbell, I. E. Refractory metal bodies, P (7) 161*h*.
Weikert, A. Apparatus for the selective separation of granular material distributed in liquids, P (10) 239*h*.
Weimer, G. Enameling faults—causes and elimination (I–III), (6) 133*j*. Influence of mill additions on the fish-scaling of sheet ground-coat enamels, (11) 252*i*. Low-temperature enamels for sheet steel, (6) 133*j*.
Wein, S. [Deposition of metallic films on glass] (I, II) gold films, (8) 187*i*; (III, IV) lead sulfide films, (8) 187*j*; (V–VIII) nickel and cobalt films, (8) 187*j*.
Weinberg, F. J. See Fox, M. D.
Weinig, S. Bending ceramic and ionic crystals, (5) 116*b*. See Mendel, E.
Weintraub, J., and Sand, L. B. Alteration of micaceous minerals by sulfide solutions, B (9) 223*g*.
Weir, C. E., Lippincott, E. R., Van Valkenburg, A., and Bunting, E. N. Infrared studies in the 1- to 15-micron region to 30,000 atmospheres, (7) 173*i*.
Weis, P. L. See Cameron, E. N.
Weise, C. H. See Kantro, D.
Weisel, G. See Hartmann, H.
Weiss, A. Cation-exchange capacity of clay minerals (I) comparison of different methods of determination, (10) 243*i*; (II) cation-exchange of minerals of the mica, vermiculite, and montmorillonite groups, (10) 243*j*; (III) cation exchange in kaolinite, (10) 243*c*. See Hofmann, U.
Weiss, A., and Michel, E. Cationic exchange and intracrystalline swelling of chain-type polyphosphates, (5) 123*i*.
Weiss, G. Pyrocore offers new concept in gas combustion, (7) 160*e*.
Weiss, M. T. Nonreciprocal gyromagnetic device, P (11) 264*f*.
Weiss, R. J. See Antal, J. J.
Weissmann, S. X-ray reflection microscopy and diffraction apparatus and method, P (7) 166*c*.
Welbon, W. W. Tungsten carbide purification, P (5) 105*k*.
Welch, J. H. See Nurse, R. W.
Welfers, E., and Hose, H. Apparatus for subdividing solids, P (2) 45*c*.
Welker, H. See Schön, M.
Welker, H., Folberth, O., Gremmelmaier, R., and Grimm, R. Method of melting compounds without decomposition, P (8) 202*a*.
Wellborn, W. W. Carbide metal, P (10) 234*h*. Process of making cemented carbide products, P (10) 235*b*.
Weller, E. F., Jr. See Hanysz, E. A.
Wellman, S. K., Co. Brake material for extreme heavy duty, P (1) 9*i*. Method of bending sintered material, P (11) 260*f*.
Welsch, W. W. Glass composition, P (3) 58*h*.
Welwyn Electrical Laboratories, Ltd. Electrical resistors, P (5) 117*f*.
Wentorf, R. H., Jr. Abrasive material and preparation thereof, P (11) 249*i*. High pressure high temperature apparatus, P (11) 265*c*. High temperature high pressure apparatus, P (11) 265*f*. Method of making garnet, P (10) 241*e*. See Hall, H. T.
Wenzel, L. A. See Foust, A. S.
Werkzeugmaschinenfabrik Oerlikon Bührle & Co., Abt. Elektrodenfabrik and Ballard, F. J., and Co., Ltd. Continuous drying kiln for sheathed welding electrodes, P (11) 267*f*.
Werner, E. Lubricating system for crusher bearings, P (4) 99*g*. Mantles for [gyratory] cone crushers, P (4) 99*h*.
Werner, K. Electrolytic dissociation of molten slags and its application to the determination of basicity of the melt, (2) 35*a*.
Wesix Electric Heater Co. Panel electric heater, P (6) 137*a*.
Wessel, H. See Krause, H.
West, H. W. H. Some observations on the properties of dust-pressed earthenware tile (I) green strength, (3) 63*c*.
West, J. F. See Glover, W. S.
West, R. See Flessner, K. W.
West, R. R. Plasticity, (6) 148*j*. Simplified whiteware control test, (10) 236*i*.
West, R. R., and Coffin, L. B. Casting of ware with highly dispersed clay bodies, (11) 261*h*.
West, R. R., Gould, R. E., Coffin, L. B., and Lux, J. F. Method for high-intensity dispersion of clay, (3) 63*i*.
West, R. R., Lawrence, W. G., and Coffin, L. B. Microvolumeter, (7) 165*j*.
West, S. F. See Alexander, G. B.
Westbrook, R. D., and Shepard, R. L. Carbon–carbon boron thermocouple, P (11) 267*e*.
Westeren, H. W. Molecular sieves in atmosphere control, (6) 148*i*.
Western Electric Co., Inc. Method and apparatus for sealing metal to glass, P (2) 34*a*.
Western Precipitation Corp. Apparatus for controlling the operation of electrical precipitators, P (3) 67*i*. Construction of multiple tube cyclone dust collector, P (2) 42*b*.
Western States Machine Co. Slurry loader for centrifugal machines, P (5) 122*h*.
Westinghouse Electric Corp. Electroluminescent cell, P (2) 40*e*. Electrostatic precipitators, P (8) 190*h*. Flexible bonded mica insulation, P (11) 263*j*. Fluorescent structures and method of manufacture, P (11) 255*d*. Fused junctions in silicon carbide, P (9) 214*a*. Getter for electron discharge device, P (2) 40*f*. High speed incandescent lamp assembling machine, P (9) 209*j*. Incandescent lamp, P (6) 136*g*. Magnesium-calcium fluorophosphate, P (6) 136*i*. Masking apparatus and method, P (6) 136*a*. Method of coating magnetic sheet material, P (3) 66*i*. Method for lamp manufacture, P (4) 87*j*. Method for manufacturing incandescent lamps, P (6) 136*g*. Method of preparing three-color electroluminescent phosphor, P (9) 214*g*. Settling of luminescent screens, P (6) 143*e*. Silicon carbide rectifier, P (9) 215*a*. Thermoelements and devices embodying them, P (6)143*f*. Ultra-high-temperature furnace, P (4) 98*c*.
Weston, D., MacPherson, A. R., Meaders, R. C., and Sheldon, W. D. Air systems for dry material reduction mills and controls, P (4) 98*f*.
Weston, W. D., and Herbert, J. M. Hygrometer of high sensitivity, P (8) 197*c*.
Westrum, E. F., Jr. See Grimes, D. M.
Weydanz, W. K. Apparatus for mixing or blending liquid, pulpy, powdery, granular, or fibrous materials, P (1) 14*h*.
Weyl, D. Influence of internal strains on the texture and mechanical strength of porcelains, (6) 141*j*.
Weyl, W. A. Acid-base relationship in glass systems (I), (11) 253*b*; (II) a new acid-base concept applicable to aqueous systems, fused salts, glasses, and solids, (11) 253*b*. Atomistic interpretation of the hardness of simple compounds, (7) 169*f*. Theoretical strength of brittle solids as affected by the polarization of constituent ions, (7) 180*j*.
Weyl, W. A., and Marboe, E. C. Formation of amorphous solids and characterization of their structures by energy profiles, (6) 148*a*. Structural changes during the melting of crystals and glasses, (7) 157*g*.
Weymouth, J. H. See Graham, J.
Wheatley, K. See Paterson, M. S.
Wheaton Glass Co. Reinforced glass aerosol containers, P (5) 112*e*. Reinforced glass aerosol containers, P (11) 257*b*.
Wheelabrator Corp. Dust collector and element for use in it, P (8) 196*h*.
Wheelden, J. W. Absorption of sodium and argon by glass, (1) 4*d*.
Wheeler, W. H. See Wallis, L.
Wheelock, T. D. Desulfurization of gypsum, (6) 132*f*.
Whetten, N. R., and Laponsky, A. B. Secondary electron emission from MgO thin films, (7) 178*g*.
Whisler, T. C., Sr. Hammer [for a rotary mill] with removable tip, P (10) 241*g*.
Whitaker, T. N. See Lewis, D. R.
White, A. E. S. See Aldred, F. H.
White, D. See Walsh, P. N.
White, D., and Cowan, C. T. Aromatic amine derivatives of montmorillonite, (6) 147*e*.
White, G. Apparatus for controlling the heating of glass sheets, P (6) 135*i*. Tempering of sheet material, P (11) 257*a*.
White, J. Some general considerations on thermal shock, (11) 271*h*. Symposium on properties of nonstoichiometric compounds: Introduction, (7) 180*d*. See Agamawi, Y. M.; Allison, E. B.; Evans, J. L.; Houseman, D. H.; Murray, P.; Richards, R. G.; Woodhouse, D.
White, J. E. Method of activating thermionic emitter, P (4) 93*i*.
White, J. F. Preparation of alumina sols, P (8) 199*d*.
White, J. L. See Bockris, J. O'M.; Mackenzie, J. D.
White, L. A., Gerring, M., and Habs, D. S. de la. Spectrographic analysis of rare-earth elements, (3) 77*j*.
White, R. L. See Carson, J. W.
White, R. L., and Solt, I. H., Jr. Multiple ferromagnetic resonance in ferrite spheres, (3) 65*f*.
White, R. P., and Rigby, G. R. Thermal expansion properties of compositions containing lithia, alumina, and silica, (2) 48*h*.
White, W. A. (compiler). Chemical and spectrochemical analyses of Illinois clay materials, (8) 198*b*. Water sorption properties of homoionic clay minerals, (3) 79*e*.
White, W. A., and Pichler, E. Water-sorption characteristics of clay minerals, (3) 79*c*.
White Sewing Machine Corp. Apparatus for making a reinforced fiber glass tube, P (11) 254*i*.
Whitehurst, H. B. Glass reinforced metals, P (8) 189*e*. Heat-treatment of metal-coated glass fibers, P (2) 33*c*. Method of providing glass filaments with a coating of silver, P (2) 34*b*.
Whitehurst, H. B., and Otto, W. H. Method of producing glass fibers with metal coatings, P (7) 159*a*.
Whitley, J. B. See Millman, N.
Whitmer, La V. E. See Crosby, G. E.
Whitmire, L. R. S. Apparatus for preparing composite assembly, P (4) 86*e*.

Whitmore, C. H. Centrifugal dust collector, P (11) 265*f*.
Whitmore, D. H. Apparent thermal conductivity of a heterogeneous ceramic body under isothermal conditions, (6) 147*e*.
Whitmore, F. E. See Young, W. J.
Whitmore, R. L. See Maude, A. D.
Whitney, G. C., Jr., and Clark, J. L. Pulverized fuel burner, P (4) 98*a*.
Whittaker, E. J. W., and Zussman, J. Characterization of serpentine minerals, (3) 73*b*.
Whittemore, J. W. See Forkner, H. R.
Whittemore, O. J., Jr. Extreme temperature refractories, (7) 160*i*.
Whytlaw-Gray, R. See Remmington, T. A.
Wick, W. J. See Hampel, L. A.
Wiebke, G. See Kangro, W.
Wiedemann, H. G. See Peters, H.
Wieder, H. H. Ferroelectric properties of colemanite, (5) 116*e*.
Wiegmann, J. See Dümecke, G.
Wiegmann, J., Horte, C.-H., and Sücker, I. Differentiation of sillimanite and mullite in very fine crystalline samples, (11) 270*g*.
Wienert, F. O. Rotary kilns, P (10) 240*i*.
Wijn, H. P. J. See Jonker, G. H.
Wiker, R. M. Theory and practice concerning the use of minor constituents in glass, (11) 254*c*.
Wilcox, J. R. See Albert, C. G.
Wilcox, R. E. Use of the spindle stage for determination of principal indices of refraction of crystal fragments, (7) 181*j*.
Wild, A. L. Modern techniques for bone china manufacture—casting, moldmaking, and glaze application, (11) 250*c*.
Wiles, J. H., and Watkins, C. A. Liquid level control for dust collectors, P (8) 196*f*.
Wilke, H. Economics of fuels, (3) 69*b*.
Wilkendorf, E. See Frank, H.
Wilkins, E. D. Metal clad refractory brick, P (4) 80*c*.
Wilkinson Mfg. Co. Magnetic filter, P (9) 216*d*.
Willems, P. Mills, particularly granulating and colloid mills, P (2) 42*d*.
Williams, A. E. See Murray, P.
Williams, A. N. See Noble, W.
Williams, B. Advantages from planned carloading, (4) 103*b*.
Williams, B. R. See Carter, C. F.
Williams, C. K., & Co. Production of red oxide of iron pigments, P (9) 218*d*
Williams, D. C. Selected investigations of the irregularities occurring within sand test specimens, (5) 113*j*.
Williams, D. J. Studies of phosphate melts and glasses (IV) densities and volumes of mixing in the binary system sodium metaphosphate–potassium metaphosphate, (6) 135*a*. See Bond, R. L.
Williams, D. J., Bradbury, B. T., and Maddocks, W. R. Studies of phosphate melts and glasses (I) fluoride additions to sodium phosphates, (6) 135*e*; (III) infrared spectra of some binary phosphate and phosphate-fluoride glasses, (6) 135*i*.
Williams, H. T. See Drenning, J. W.
Williams, J. See Scott, R.
Williams, J., Barnes, E., Thackray, R. W., and Murray, P. Symposium on properties of nonstoichiometric compounds: Nonstoichiometric oxides of uranium, (7) 180*g*.
Williams, J. R. Fire check, P (4) 98*b*.
Williams, L. A., Jr. See Keeleric, G. F.
Williams, L. S. See Garrett, W. G.; Graham, J.
Williams, P. D. See McCullough, J. A.
Williams, R. A. Method for fabricating [signal-translating] semiconductive devices, P (8) 195*f*.
Williams, R. M. Air seal for separating devices, P (4) 95*i*.
Williams Patent Crusher and Pulverizer Co., Inc. Air seal for separating devices, P (4) 95*i*.
Williamson, J. T. See Billue, R. F.
Williamson, M. A. Stepping into management, (1) 22*f*.
Williamson, W. O. Oriented aggregation, differential drying shrinkage, and recovery from deformation of a kaolinite-illite clay, (7) 176*h*. See Cox, R. W.
Wilman, H. See Porgess, P. V. K.
Wilmot, R. C., Sullivan, A. C., and Trought, M. E. Bauxite, (6) 145*g*.
Wilshire, H. G. Alteration of olivine and orthopyroxene in basic lavas and shallow intrusions, (3) 72*g*.
Wilska, S., and Hänninen, E. Manufacture of lightweight brick by the dolomite-sulfuric acid method, (8) 191*i*.
Wilson, A. D. See Jeffery, P. G.
Wilson, C. L. See Belcher, R.
Wilson, C. P. Catalyst for hydrocarbon conversion reactions, P (2) 45*d*.
Wilson, L. R. See Clark, J. W.
Wilson, W. B. High pressure dies, P (10) 239*e*.
High-temperature X-ray diffraction investigation of the uranium–carbon system, (3) 75*a*.
Wiltshire, A. J. See Balcom, G. A.
Windsor, H. F. Method for increasing dry adhesion of luminescent screens, P (4) 87*i*.
Winkel, J. M. Coefficients of expansion in the practice of enameling, (8) 186*j*.
Winkler, H. G. F. Frost resistance of roofing tile, (6) 137*j*. See Platen, H. v.
Winsel, A. See Justi, E.
Winslow, G. H. See Ackerman, R. J.
Winter, A. Antique decorating slips—characteristics and firing behavior, (8) 185*g*. *Bucchero nero*—technique of its manufacture, (8) 185*g*. Limits of formation of glass, (1) 5*c*.
Winter, T. F. Ceramics in architecture, (4) 82*b*.
Wintermute, H. A. Apparatus for collecting magnetic susceptible material, P (2) 41*g*.
Wirsig, S. S. See Hund, R.
Wirtz, H. See Löwenstern, E.
Wisconsin Alumni Research Foundation. Mortar and pestle, P (2) 48*j*.
Wisconsin Electrical Mfg. Co., Inc. Automatic control for material distribution, P (6) 144*e*.
Wisner, W. R. Lamp manufacture, P (11) 256*a*.
Witt, C. B. Automation on crushing, grinding, screening, and admixing in the brick industry, (4) 88*a*.
Wittry, D. B. Electron probe microanalyzer, P (4) 103*a*.
Witucki, R. M., and Lewis, A. E. Method and apparatus for forming refractory articles, P (9) 212*d*.
Witzgall, E. J. See Draper, R. L.
Wlokka, H. See Brandstädt, W.
Woermann, E. Deposits of minerals and clays in Africa, (11) 268*b*.
Wojtowicz, P. J. Theoretical model for cubic-to-tetragonal phase transformations in transition metal spinels, (4) 102*f*. See Baltzer, P. K.
Wolf, F., and Beyer, H. Changes in the surface structure of silica gel after tempering at higher temperatures, (5) 123*b*.
Wolf, F., and Hille, J. Stabilization of β-dicalcium silicate by elementary carbon, (6) 133*c*.
Wolf, F., and Ritzmann, H. Dusting of dicalcium silicate containing clinker, (6) 132*g*.
Wolf, R. F. A. Production of aluminum powder, P (8) 199*f*.
Wolfe, J. M. New "tools" slice cement-making coats, (6) 133*a*.
Wolff, G. M., and Richardson, C. D. Composite mica paper, mica flake electrical insulating material, P (5) 117*e*.
Wolff, H. H., and Pettersson, S. T. L. Sintered hard alloys, P (10) 235*g*.
Wolff, R. Rate of sedimentation of powdered materials in liquids, (5) 127*d*.
Wolford, W. W. Glass container inspecting apparatus, P (1) 6*i*.
Wolfson, S. H. See Hawkins, G. S.
Wolkodeff, V. E. See Backstrom, J. E.; Mielenz, R. C.
Wollan, E. O., and Koehler, W. C. Neutron diffraction study of the magnetic properties of the series of perovskite-type compounds $[(1-x)\text{La}, x\text{Ca}]\text{MnO}_3$, (3) 76*b*.
Wolverine Porcelain Enameling Co. Structural panel construction, P (4) 84*a*.
Wonders, H. R. See Medert, W. C.
Wondratschek, H., Brunner, G. O., and Laves, F. Mechanism for the electrolysis of quartz, (11) 263*e*.
Wood, R. T. Hollow cores for making castings, P (3) 58*g*.
Wood, S. C. See Henwood, J. B.
Wood, T. K. Apparatus for manufacturing glass beads, P (11) 254*j*.
Wood, W. D. See Lucks, C. F.
Woodard, D. H. See Allen, L. R.
Woodford, F. W. Production of barium hydroxide, P (7) 168*c*.
Woodhouse, D., and White, J. Phase relations of iron oxide containing spinels (III) further investigations on the systems Fe–Mg–O and Fe–Mg–Cr–O and general relations in the system Fe–Mg–Cr–Al–O, (7) 176*h*. Symposium on properties of nonstoichiometric compounds; Nonstoichiometry at high temperatures in systems containing iron oxides, (7) 180*d*.
Woodman, G. E. Construction and use of an adobe kiln, (8) 185*h*.
Woods, J. A. Method of fabricating multiple glass sheet glazing units, P (6) 136*e*.
Woodward, R. M. Apparatus for contacting molten glass, P (1) 6*d*.
Woolf, D. O. See Tremper, B.
Wooster, W. A., and Joel, N. Elastic constants of the diamond, (4) 101*a*.
Worden, E. C. Method and apparatus for manufacturing synthetic mica, P (6) 146*b*.
Workman, G. M. Assessment of ladle firebrick quality and performance, (10) 232*a*.
Worrall, W. E. Adsorption of basic dyestuffs by clays, (6) 147*d*. Rational analysis of fire clays, (7) 178*d*. See Ryan, W.
Worrall, W. E., Grimshaw, R. W., and Roberts, A. L. Structural significance of cation exchange in fire clays, (11) 272*d*.
Worsham, C. H., and Skarstrom, C. W. Hydroforming process using alumina supported shock-cooled catalyst, P (1) 18*j*.
Worthington Corp. Aggregate recovering machine, P (5) 121*f*.
Wranau, G. von, and Baker, E. G. Method for spinning glass fibers, P (8) 190*d*.
Wray, K. L., and Connolly, T. J. Thermal conductivity of clear fused silica at high temperatures, (9) 221*b*.
Wright, H. Relative spectral energy distribution of CIE standard source A, (4) 101*h*.
Wright, H. D. Optical study of talc-tremolite relations, (2) 47*d*.
Wright, J. W. Method and apparatus for controlling convection currents of molten glass, P (1) 6*b*.
Wright, J. W. T. See Howles, D. A.
Wright, L. T. See Birkness, H. A.
Wright, P. J. F. Variation in the strength of Portland cement, (3) 55*b*.
Wright, P. S. See Tremper, B.
Wright, R. J. See Metcalfe, K. A.
Wright, S. G., and Fowler, R. M. Method for the production of aluminum carbide, P (10) 241*j*.
Wright, T. G. See Cochran, C. J.
Wrischer, M. See Stubičan, V.
Wroughton, D. M. See Marden, J. W.
Wünning, J. See Schmidt, T.
Wulff Process Co. Ceramic checker and assembly thereof, P (9) 212*f*.
Wurzburg, F. L., Jr., Di Bernardo, A., and Cleary, J. R. Calculation of small color differences, (6) 147*g*.
Wuttke-Peschel, I. See Kangro, W.
Wyandotte Chemicals Corp. Palletized bag squeezing machine, P (5) 121*d*.
Wykes-Joyce, M. Sir Tristram, Prince Suinin, and the dream of the Emperor Ming-Ti, (7) 154*a*.
Wylie, R. G. Hygrometers, P (1) 14*d*.
Wyllie, P. J. Discrepancies between optic axial angles of olivines measured over different bisectrices, (3) 74*g*.
Wynn, N. Platinum in the decoration of ceramic wares, (8) 194*c*.

Yadava, K. L., and Ghosh, S. Colloidal silicates (I) conductometric and potentiometric study of the formation of ferric silicates, (5) 123*e*; (II) conductometric and analytical studies of the formation of silicates of barium and strontium, (5) 123*f*; (III) conductometric and potentiometric studies of the formation of chromium silicates, (5) 123*g*. Relation between time of gelation and concentration of silicic acid, iron, and chromium silicates, (5) 127*i*. Studies on the gelation of products obtained in the metathesis of sodium silicate with chlorides of iron and chromium, (5) 128*d*. Studies on the gelation of silicic acid and the products obtained in the metathesis of sodium silicate and chlorides of iron and chromium, (5) 128*e*. Studies on the metathesis of beryllium chloride and sodium silicate solutions, (5) 128*f*.
Yamada, K., Nakayama, N., Kajihara, H., Sakai, S., and Mii, H. Machinability study of ceramic tools (IV) performance of ceramic and carbide tools in cutting alloyed cast iron at ultrahigh speed, (7) 153*e*.
Yamada, K., Nakayama, N., and Ota, E. PSG–6 BV precision surface grinder, (5) 105*f*.
Yamada, T. Aluminum enameling (II) conditions of anodic oxidation of aluminum plates, a pretreatment for applying lead, borosilicate, and phosphate enamels, (11) 252*g*.
Yamada, T., Kcike, N., Ito, M., and Nagai, S. By-product gypsum from phosphoric acid process (V) relation between the decomposition conditions and the crystal form of gypsum, (3) 52*h*.
Yamagami, Y. See Berkley, C.
Yamagata, K. See Kuroda, E.
Yamaguchi, G., and Miyabe, H. Precise determination of the $3\text{CaO}\cdot\text{SiO}_2$ cells and interpretation of their X-ray diffraction patterns, (5) 126*c*.
Yamaka, E., and Sawamoto, K. Photo-induced Hall effect in MgO, (4) 101*b*.
Yamakawa, H. See Nagai, S.
Yamakawa, K. Liquid colors used in pottery, (2) 38*f*.
Yamamoto, M. See Iwata, T.; Taniguchi, S.
Yamamoto, R. Translucency of porcelain bodies, (3) 64*c*.
Yamauchi, S. See Matsumoto, H.
Yamauchi, T. See Suzuki, H.
Yanagi, S. Mystery of beauty—a tribute to the Korean craftsman, (2) 28*a*.
Yang, J. C.-S. System magnesia–silica–water below 300°C. (I) low-temperature phases at 100° to 300°C. and their properties, (11) 272*i*.
Yannaquis, N. X-ray study of silicates of clinker, (3) 55*a*.
Yarembash, E. I. See Borzenkova, M. P.
Yarnton, D. Sintering under glass, (10) 246*c*.
Yarotsky, M. F. Method of protecting refractory lining of a high temperature furnace, P (4) 89*c*.
Yarze, J. C. See Hungerford, G. P.
Yashchuk, A. P., and Lants, M. E. Use of nonelectrolytic kaolins, (8) 198*j*.
Yasuno, F. Studies on the deterioration of steatite bodies (I) thermal expansion of deteriorated bodies and their chemical compositions, (4) 91*g*; (II) thermal properties of magnesium metasilicate, (7) 179*h*.
Yates, D. J. Development of color in glass, (10) 227*h*. Expansion of porous silica glass produced by the adsorption of nonpolar gases at liquid air temperatures, (3) 56*j*.
Yates, P. C. See Alexander, G. B.
Yellott, J. I., and Broadley, P. R. Ash separator for powdered coal burning pressurized combustion system, P (4) 97*i*.
Yntema, L. F. See Wehrmann, R. P.
Yntema, L. F., Beidler, E. A., and Campbell, I. E. Highly refractive molybdenum bodies and method of preparing, P (5) 108*h*.
Yoblin, J. A. See Goetzel, C. G.
Yoder, H. S., Jr. Experimental studies on micas: a synthesis, B (9) 223*c*.
Yokota, R. Color centers in alkali silicate glasses containing alkaline earth ions, (3) 56*d*.
Yonemochi, O. See Kuroda, E.
York, J. L. See Snow, H. J.
Yoshida, M. See Fukuo, N.
Yoshii, T., Mori, H., and Kanda, M. Air permeability of concrete, (2) 28*d*.
Youkers, H. A. See Deible, W. B.
Young, D. R. See Huibregtse, E. J.
Young, J. E., and Brownell, W. E. Moisture expansion of clay products, (1) 7*c*.
Young, J. Z., Roberts, F. F. W., and Causley, D. J. Apparatus for counting discrete particles, P (7) 165*b*.
Young, T. R. See Meyerson, M. R.

Young, W. J., and Whitmore, F. E. Analysis of oriental ceramic ware by nondestructive X-ray methods, (1) 1*i*.
Yu, S. P. See Morrish, A. H.
Yurchak, I. Ya., and Kovel'man, G. A. Trend of scientific and constructive work in the development of domestic porcelain and earthenware in 1959–1965 (U.S.S.R.), (2) 38*j*.

Zachariasen, W. H. Production of thorium fluoride, P (1) 10*a*.
Zacher, W. J. New approach to crushing problems, (6) 132*j*.
Zagar, L. Influence of texture on the slagging of refractories, (6) 138*d*.
Zaichenko, G. E. See Ktitorov, P. M.
Zaimakikh, N. V., and Esin, O. A. Welding slag viscosity and electrical conductivity, (5) 113*g*.
Zalonts, R. M. See Dobuzhinskii, V. I.
Zakgeim, A. Yu. See Ramm, V. M.
Zalm, P. Method of producing zinc selenide, P (8) 195*f*. See Joormann, H. J. M.
Zambrow, J. L. Method of making wire fuel elements, P (11) 252*g*.
Zandberg, P. I., and Diamond, H. L. Dental stone or plaster, P (10) 226*c*.
Zandy, H. See Brill, R.
Zang, V. E. See Emmett, W. D.
Zapp, F. Use of casting resins in the making of models for the fine ceramic industry, (8) 194*c*.
Závody Rudych Letnic 1930, Narodni Podnik. Exhaust hoods for electric arc furnaces, P (8) 198*b*.
Zeco Research Corp. Process of treating aluminous cement and product, P (5) 108*b*.
Zehler, V. Particle size and size distribution in powdered materials, (5) 126*c*.
Zehms, E. H. See McClelland, J. D.
Zehrlaut, H. A. R. Process of treating aluminous cement and product, P (5) 108*b*.
Zeiss, C. Method for working materials by means of a beam of charged particles, P (1) 21*i*.
Zernike, J. Chemical Phase Theory, B (2) 49*e*.
Zertsalova, I. N. See Kitalgorodskii, I. I.
Zevely, T. K. Molded block stripping mechanism, P (8) 190*j*.
Zherebin, S. I. See Ginzburg, D. B.
Zherebin, S. I., and Kabanov, N. P. Practical use of pitch (tar or resin) for carburation of generator gas in glassmelting furnaces, (1) 5*j*.
Zhikharevich, S. A., Getman, I. A., and Kozyreva, L. A. Technology of dense volume-stable high-alumina refractories for blast furnace linings, (10) 234*a*.
Zhilin, Z. I., and Kirova, S. M. Use of powdered quartz in the glass industry, (6) 135*e*.
Zhuravskii, N. K., Chernushkin, I. T., and Kapel'ko, A. N. Utilization of volcanic ash in electrotechnical porcelain, (7) 162*d*.
Ziegler, G. See Schwiete, H. E.
Ziegler, G. E. Production of exfoliated vermiculite, P (11) 269*f*.
Ziese, W., Chorbacher, W., and Steinhofer, A. Production of colloidally soluble aluminum hydroxide, P (3) 72*c*.
Zilahy, E. See Mullan, D.
Zimmerman, G. Shears for severing mold charges of plastic glass, P (6) 137*b*.
Zimmermann, M. W. See Chyle, J. J.
Zingaro, P. W. Statistics in X-ray intensity measurements, (7) 179*c*.
Zink, H. F. Glass conveying device, P (10) 230*j*.
Zirconium Corp. of America. Zirconia stabilization control, P (9) 213*f*.
Zirinsky, S. See Nelson, R. A.
Zocchi, M. See Collotti, G.
Zöhler, A. See Graue, G.
Zoja, R. Refractoriness tests related to a portion of the system CaO–MgO–SiO$_2$–Al$_2$O$_3$, (3) 61*e*.
Zonolite Co. Production of exfoliated vermiculite, P (11) 269*f*. Structural clay products and method of making, P (10) 231*i*.
Zschacke, F. H., and Vopelius, F. von (reviser). Textbook of Glass Technology: Vol. III, Improvement of Flat Glass, B (2) 50*i*.
Zubkov, K. E. See Vladychenskaya, V. V.
Zühlke, M. High-tension insulator, P (8) 194*b*.
Zuppann, E. C. Practical pH control for molding sand, (5) 113*h*.
Zurney, W. E. See Sherts, W. M.
Zussman, J. See Whittaker, E. J. W.
Zvejnieks, A. Method and apparatus for calcining gypsum, P (8) 186*d*. Method and apparatus for drying of gypsum, P (9) 205*c*.
Zvyagil'skii, A. A. See Budnikov, P. P.
Zwetsch, A. Textural structure in ceramic bodies, (6) 141*i*.
Zyuk, E. D. Developments on high temperature thermocouples using noble metals, (9) 216*i*.

SUBJECT INDEX TO CERAMIC ABSTRACTS FOR 1960

The reference number in parentheses refers to the monthly issue of *Ceramic Abstracts;* the number following is the page number. The letter B or P preceding the reference number indicates an abstract of (B) a book, bulletin, or separate publication or (P) a patent. The italic letter following the page number indicates position on the page. For more complete indexing of papers published in the *Journal of The American Ceramic Society* and the *American Ceramic Society Bulletin*, see indexes to the *Journal* and the *Bulletin*.

Abrasion, free, for grinding and polishing precision ceramics, (2) 41*g*.
in glass, effect of aging, (4) 85*a*.
of glass, effect on strength and static fatigue, I, II, (1) 5*k*,*j*.
resistance, apparatus for measuring, P (3) 68*i*.
of coke bottom Dinas, (3) 60*g*.
of enamels, effect of mill additions, (8) 187*e*.
of refractories, laboratory tests, (3) 60*g*.
-resistant coated metals, P (3) 55*k*.
Abrasives. See also *Alumina; Carbides; Diamonds; Grinding and polishing apparatus; Silicon, carbide*.
articles, composition, P (3) 52*a*.
containing silicon alloy, P (9) 203*e*.
with F-containing amphibole and borosilicate glass as bond, P (4) 81*g*.
method of forming, P (10) 225*f*.
bonded, for grinding ceramic materials, (3) 67*f*.
coated, P (7) 153*g*.
better storage, (6) 131*e*.
as modern tool of industry, B (2) 49*e*.
cured molded, P (9) 203*g*; P (10) 225*e*.
detergent composition, nonscratching, P (11) 249*k*.
disks, with grooved working face, P (1) 1*f*.
disks, rotary, P (1) 1*k*.
in disks of dental acrylic resin for polishing laps, (7) 177*e*.
finishing, for synthetic resins and Celluloid, (4) 81*i*.
magnetizable, in abrading apparatus, P (6) 131*g*.
materials, (6) 145*f*.
in 1958, (5) 120*k*.
in 1959, (7) 166*i*; (11) 268*a*.
preparation, of BN, P (11) 249*i*.
polirit as, (4) 81*f*.
powders, for polishing glass, effect of particle size, (4) 81*f*.
products, 1957–58, world survey, (8) 185*f*.
sheet, plastic film, P (9) 203*f*.
in solution for polishing plate glass, P (9) 203*e*.
study on, IX, (3) 51*k*; X, XI, (4) 81*g*.
synthetic, bonded with glass, resin, shellac, and rubber, (9) 203*e*.
wheels. See *Grinding and polishing apparatus*.
Zr-type, review, (1) 1*f*.
Absorption, bands, of Cr^{3+} ions in solutions, crystals and glasses, (6) 134*d*.
of brick, effect of facial texture on initial rate of, (3) 60*a*.
capillary water, of Portland cement mortar with blast-furnace slag, (7) 154*d*.
correction for rod-shaped single crystals, (3) 73*b*.
of crystals, relation to pleochroism, (3) 72*g*.
γ-ray induced band in lead borate glasses, (9) 207*b*.
measurements, on rare-earth iron garnets and α-Fe_2O_3, (10) 237*a*.
optical, of irradiated quartz and silica, relation to electron spin resonance, (9) 208*d*.
readings, of dichromate solution standards with Cary-14 spectrophotometer, (5) 119*b*.
re-, of dried clayware, as cause of cracking, (3) 60*b*.
of Na and A by glass, (1) 4*d*.
spectra. See *Spectra*.
of SO_2 by quicklime, mechanism, (7) 154*e*.
theory and technology, (9) 221*i*.
visible and ultraviolet, of UO_2 films, (6) 149*c*.
Accelerators, in glass polishing, study of action by use of tagged atoms, (10) 229*d*.
Acetone, systems. See *Systems*.
Acidity, of aqueous solutions, development in terms of screening theory, (11) 253*b*.
measurement at high temperatures, (11) 253*b*.
Acids. See also specific types.
alginic, esters of in glaze slips, (6) 140*i*.
boric, nuclear magnetic resonance of, (10) 228*c*.
effect on, drying of British clays, (3) 70*d*.
glass container durability, (5) 110*c*.
polished surface of flint glasses, (10) 229*f*.
orthotitanic, method of dissolving, P (3) 71*b*.
resistance, of enamels, effect of mill additions, (8) 187*e*.
of enamels, rapid evaluation, (10) 226*k*.
of overglaze colors, (6) 140*f*.
silicic, in bentonites, properties of, (5) 127*b*.
effect on gelation time of reaction product between Fe or Cr chloride and Na silicate, (5) 127*i*.
polymerization and depolymerization, (5) 126*j*.
and products of metathesis of Na silicate and chlorides of Fe and Cr, gelation studies, (5) 128*e*.
Acids, silicic (*continued*)
solubility and solution equilibria of, (5) 127*e*.
in stabilization of crystalline Sn(II) hydroxide, (5) 128*a*.
stability of boron carbide in, (10) 232*f*.
sulfosalicylic, in test for iron in silicates, (5) 127*i*.
2,4-dichlorophenoxyacetic, in ultraviolet spectrophotometric determination of Th, (3) 78*i*.
Acoustics. See *Insulation, acoustical*.
Adherence. See also *Coatings, ceramic; Enamels; Glazes*.
between glass and metal, B (10) 248*g*.
Adhesion, determination by wetting phenomena, (11) 254*f*.
of dolomite to sintered hearth, effect of temperature and heating time, (1) 8*f*.
dry, of luminescent screens, increasing, P (4) 87*i*.
of glass, atomistic approach, (11) 253*j*.
of glass-polymer joins, (9) 206*a*.
of metal films to glass, (10) 227*e*.
principles and problems, (5) 126*k*.
Adhesives, for asbestos, glass, and abrasives, from organic silicates, (8) 198*e*.
epoxy, for jointing or repairing clay pipe, (11) 257*h*.
for laminated panels, (5) 108*d*, (7) 155*d*.
Adsorbents, selective, zeolites and synthetic alumino-silicates as, (7) 176*a*.
synthetic zeolites as, (6) 148*i*
Adsorption, of NH_3 by quartz and GeO_2, (5) 125*j*.
of basic dyestuffs by clays, (6) 147*d*.
on clay crystallites, theory of, (5) 129*f*.
in determination of specific surface of powders, porous materials, and other colloidal systems, (5) 128*k*.
German patent review, (5) 123*e*.
of glass and silica, effect of pretreatment and transition processes, (5) 109*j*.
krypton, and surface area of silica, (8) 200*i*.
moisture, ratio to ignition loss, as aid to clay mineral identification, (3) 77*e*.
multilayer, of water near saturation pressure on plane glass surfaces, (1) 5*e*.
negative, of anions by clay suspensions, (5) 125*j*.
of N, determination by continuous flow method, (3) 74*a*.
of nonpolar gases at liquid air temperatures, expansion of porous silica glass from, (3) 56*j*.
of organic material by montmorillonite in relation to water content, (3) 72*i*.
of phosphate, by estuarine bottom deposits, (1) 17*a*.
properties, of quartz powders, (5) 123*a*.
selective, of vapors on silica gels of different pore structure, (5) 127*a*.
of silicates with tubular primary crystals, (5) 123*c*.
of soot surfaces, (1) 20*d*.
studies of porous materials, B (6) 152*c*.
of surface-active agent on gypsum, (1) 2*f*.
on surfaces of vitreous silica of known geometric area, (8) 199*h*.
water, effect on strength of kaolinite compacts, (7) 176*e*.
of water vapor on glass, metal, and alumina ceramics in vacuum, (5) 109*c*.
of water vapor on lead borosilicate glass in vacuum, (5) 109*d*.
Aeration, as cause of false set in Portland cement, (9) 204*a*.
Aerials, high frequency radio, lens and mirror for, P (2) 40*h*.
Aerogels. See *Colloids; Silica*.
Aerosols, filtration, by use of membrane filters, (5) 123*e*.
reinforced glass containers for, P (5) 112*e*; P (11) 257*b*.
Afterglow. See *Luminescence*.
Agglomerates, aluminum nitride, process for, P (6) 146*i*.
fibrous, of asbestos and expanded perlite, P (2) 37*d*.
Aggregates, alkali-, reaction, in concrete, I-III (4) 82*k*.
alkali-, reaction, tests and effects, (4) 82*f*.
amount and coarseness, effect on spalling resistance of silica open-hearth roof brick, (11) 259*h*.
bond strength in cement, dependence on aggregate size, (10) 225*i*.
cement-, bond strength data, (9) 204*i*.
coarse, coloring process, P (8) 194*b*.
coarse, effect on strength of concrete, (3) 53*k*.
in concrete, chemical reactions, (4) 82*j*.
containing liquid phase, rheology of, (6) 139*b*.
fine, classification methods, II-III, (5) 121*a*.
Aggregates (*continued*)
fine, effect on drying shrinkage of Portland cement paste, (3) 53*i*.
for fire concrete, (6) 132*c*.
Georgia plant production from blue shale, (11) 257*h*.
glassified, rotary kiln for producing, P (10) 240*f*.
hydrous-iron, in high-density concrete, (3) 53*j*.
lightweight, B (6) 150*e*.
characteristics and requirements of clays and shales for, (6) 145*a*.
clay or shale for making, (11) 257*f*.
development from Ohio clays and shales, (10) 231*f*.
experiments in forming block from, (11) 257*f*.
in furnace patch lining, P (1) 16*e*.
handling tips, (1) 7*e*.
flotation separation of, P (8) 198*g*.
from marsh clays, (6) 137*d*.
process for, P (11) 252*a*.
machine for recovering, P (3) 121*e*.
potential reactivity, laboratory tests for, (4) 82*i*.
relation to expansion and cracking of cement, (3) 53*d*.
Aging, of abrasions in glass, effect on strength and static fatigue, (4) 85*a*.
in air, of clinkers and cements, effect on properties, (5) 106*i*.
of $Al(OH)_3$, electron microscope studies, (5) 125*a*.
effect on rheological and casting behavior of alumina suspensions, (2) 48*e*.
pre-, of electrostrictive ceramics, P (10) 238*g*.
Air, chilling, of bent glass, P (6) 135*g*.
cleaner, dry type, P (3) 68*a*.
dry compressed, in glass manufacturing, (9) 206*h*.
entrained, in unhardened concrete, (1) 2*j*.
entraining agents, in decreasing air permeability of concrete, (2) 28*d*.
entraining agents, effect of amount and type on concrete, (1) 2*i*.
mixed, electric device for measuring temperature, P (11) 267*a*.
pollution, and related occupational diseases, U.S.S.R. literature on, B (7) 184*a*.
rotary mixer, in drying heavy products, (5) 120*d*.
shear elasticity of, evidence for, (9) 219*h*.
-solids, separation system for blast room, P (9) 205*g*.
systems, for dry material grinding mills and controls, P (4) 98*j*.
Aircraft ceramics. See also *Cermets; Turbines*.
brake material, heavy duty, P (1) 9*i*.
hollow heat resistant articles, P (10) 235*c*.
jet engine parts, coating and infiltrating of, P (10) 235*d*.
new concepts of, (6) 149*i*.
problems and requirements, (10) 232*j*.
review, (9) 222*e*.
Alcohols, Me, in determination of boric acid in glasses, (4) 84*i*.
polyvinyl, in EDTA titration of Ca, (3) 75*g*.
Algebra, matrix, for calculating component mixtures, (7) 154*d*.
Alkaline earths. See also specific types.
metals, synthesis of superoxides of, I–IV, (9) 221*e*.
oxides, electron-bombardment-induced dissociation, (10) 244*b*.
ultraviolet extensions of arc spectra of, (7) 181*k*.
Alkalis. See also specific types.
-aggregate reaction, in concrete, I–III, (4) 82*k*.
in excessive concrete expansion, prevention by mineral admixtures, (3) 53*a*.
tests and effects, (4) 82*f*.
in cement, relation to expansion and cracking, (3) 53*d*.
content, in glasses, effect on bubble formation, (5) 110*f*.
in corundum, determination by flame spectrometry, (2) 42*g*.
in dust injection kiln, (3) 52*k*.
excess, removal from high-alkali porcelain body, (2) 38*a*.
in glass, effect on space-charge development, (5) 111*c*.
in light filter glasses, (8) 188*d*.
metals, determination in glasses by flame photometer, (2) 31*h*.
resistance of overglaze colors to, (6) 140*j*.
in silicates, determination by flame photometry, (5) 124*c*.
subsilicates, process of making, P (10) 242*i*.
sulfate, as exciting agent for latent hydraulicity of blast-furnace slag, (9) 204*c*.

Alloys, glass-metal, possible production by sintering under molten glass, (10) 246*e*.
lehr belt, effect of higher annealing temperatures on, (9) 206*j*.
sintered hard, with W_2C and WC in eutectic ratio with remainder Al_2O_3, P (10) 235*g*.
sintered hard metal, P (1) 10*c*.
sintered hard metal, for machining steel, P (7) 162*a*.
Alumina. See also *Aluminum, oxide; Boehmite; Corundum; Refractories.*
activated, from commercial α-alumina trihydrate, P (4) 100*e*.
activated, in phosphors, P (5) 117*a*.
as additive in water hardening mixtures, P (2) 29*i*.
adsorbent, for decolorizing hydrocarbon oil, P (7) 168*b*.
α-, development in heat exchange material, P (2) 37*f*.
α-, transformation by cryolite-like substances, (5) 129*c*.
attrition resistant, as catalyst support, P (3) 71*j*.
body, for liner for chamber to help contain controlled H-bomb reaction, (4) 88*d*.
bubbles, in wheel for grinding rubber, leather, and cork, (3) 51*f*.
calcined, properties of, I, II, (7) 177*f*.
catalysts. See *Catalysts*.
in cement, complexometric determination, (7) 154*f*.
ceramics, adsorption of water vapor in vacuum, (5) 109*d*.
ceramics, study of lattice defects by thermoluminescence and reflectance methods, (10) 243*f*.
cladding, for UO_2 ceramics for nuclear fuels, (9) 210*g*.
as coating for golf club head, P (3) 55*g*.
comminution of, effect on sintering of corundum bodies, (7) 162*d*.
content, of Arkalykskii clays, (1) 17*c*.
of ladle firebrick, effect on quality and performance, (10) 232*a*.
in mortar, effect on consistency, (5) 113*c*.
of thermally stable mullite-corundum brick, (2) 36*d*.
cylinders, in test of theory for calculating transient thermal stresses, (11) 272*i*.
dielectric properties at high temperatures, (6) 142*b*.
effect on, oxidation of SiC, (10) 234*j*.
properties of electric porcelain, (5) 115*e*.
strength of Dinas at high temperatures, (1) 9*c*.
eta-, preparation by acid hydrolysis, P (3) 71*i*.
extrusion and preparation, P (7) 167*h*.
fibrous, monohydrate, production, P (4) 99*b*.
fibrous, structure and properties, (5) 120*j*.
flame-sprayed, for radomes, (1) 7*j*.
in fused cast refractories, P (3) 62*b*.
γ-, tetragonal, structure of, (7) 171*a*.
gelatinous, partial dehydration, (9) 220*b*.
gels, phosphate-containing, P (10) 242*i*.
gels, production, P (1) 18*j*.
grain boundaries, flash etching of, (11) 270*i*.
grinding time, reduction of, (2) 41*f*.
high-, ceramics, metallizing of, (7) 163*e*.
in high temperature enamels for low-carbon steel, (8) 186*i*.
hydrates, macrosize, calcination of, P (4) 99*e*.
precipitation from caustic aluminate liquor, P (9) 218*d*.
high purity, production in Bayer process plants, (4) 98*j*.
-iron oxide, spherical particles for catalyst, P (1) 17*j*.
-lithia-silica compositions, thermal expansion of, (2) 48*g*.
with Mo Cr alloy for friction element, P (4) 89*i*.
monohydrate, chemical extraction, P (11) 268*f*.
nature and behavior in molten slag, (7) 170*b*.
nickel-, alloys, preparation and high-temperature properties, (8) 191*d*.
from phosphate-containing ores, P (3) 72*d*.
powder, fluidized handling, (7) 166*j*.
production of, P (11) 269*a,c*.
production of Na aluminate from, P (7) 167*e*.
pure sintered, as insulating refractory for thermocouple wires for high temperature measurements, (6) 145*d*.
ratio to SiO_2, effects on viscosity and coloring of copper-red glazes, (9) 212*i*.
reaction with CaC_2 in melts to 2900°C., (5) 127*f*.
as resistor material, P (2) 37*d*.
silica-, composition, P (10) 242*f*.
silica-free, from iron-containing material, P (11) 269*g*.
-SiO_2 pigment, P (6) 146*e*.
finely divided, P (11) 269*a*.
white, P (10) 242*h*.
in silica brick, effect on safe heating rate, (10) 234*h*.
in silica sands, quick method for estimating, (7) 177*c*.
single crystals, creep of, (10) 243*e*.
sintered, for cutting and drawing tools, P (11) 262*d*.
slip, lubricants for improving plasticity, (11) 268*i*.
suspensions, study of, III, (2) 48*e*.
systems. See *Systems*.
thermal conductivity, reanalysis of data, (3) 75*h*.
thermal transformations in, (7) 176*f*.
trihydrate, dehydration of, (7) 170*i*.
volumetric determination in presence of Fe, Ti, Ca, Si, and other impurities, (7) 181*d*.
Aluminates, crystalline, infrared absorption spectra, (10) 244*a*.
Aluminosilicates, dissolving of, (7) 175*h*.
gravimetric determination of silica in, (1) 20*a*.
synthetic, as selective adsorbent, (7) 176*a*.
Aluminum, additions to fused silica, (9) 208*j*.
adhesion to glass, (10) 227*e*.
alloys, for enameling, (7) 155*f*.
alloys, enameling of, P (8) 187*b,c*.
Al^{3+}, substitution of Fe^{3+} for in synthetic spessartite, (6) 148*j*.
and AlN, in porous membrane for separation of uranium isotopes by gaseous diffusion, (10) 233*g*.
atoms, location in muscovite structure, (7) 179*d*.
atoms, role in structure of beryl, (9) 220*d*.
-base powder products, P (11) 260*a*.
boride, single crystals, synthesis and hardness of, (3) 76*e*.
in briquette for metallurgical flux, P (7) 161*a*.
carbide, method of producing, P (10) 241*j*.
carbide, thermal decomposition, in production of graphite single crystals, (3) 77*d*.
determination in cement, using Norelco Autrometer, (7) 171*h*.
determination in cement raw materials and products, (5) 106*d*.
enameling, low-melting enamels for, (5) 108*g*.
new plant design, (1) 3*j*.
physicochemical processes, (8) 187*f*.
pretreatment for lead, borosilicate, and phosphate enamels, P (11) 252*g*.
enamels for, P (4) 84*d*.
enamels for, based on Pb–phosphate–silicate system, (9) 205*f*.
extraction and flame spectrophotometric determination, (3) 74*c*.
films, in decorating porcelain, (9) 213*b*.
fluoride, manufacture of, P (6) 146*d*.
fluoride, systems. See *Systems*.
formation of insulating coatings on by thermal oxidation using fluorine, (1) 3*g*.
in GeO_2 glass, effect on thermoluminescence, (9) 208*c*.
in glass, determination by flame photometry and spectrograph, (1) 4*g*.
growth during enameling, (5) 108*g*.
hydrate, preparation, P (1) 18*g*.
hydroxide, colloidally soluble, P (3) 72*c*.
electron microscope studies of aging of, (5) 125*a*.
electron microscope studies of morphology of, (5) 124*g*.
thermally decomposed, effect of starting materials on crystalline forms of, I, II, (7) 173*f*.
industry, Romanian argillaceous rocks as replacement for bauxite in, (3) 70*c*.
in kaolin, quantitative flame-spectrometric determination, (6) 148*f*.
Mg-, oxides and silicates, physical properties and bond type, (3) 77*b*.
nitride, agglomerating process, P (6) 146*i*.
molded articles, P (8) 193*a*.
preparation by wire growth method, (5) 126*e*.
nontoxic enamel frits for, P (5) 109*b*.
oxide. See also *Alumina*.
adsorptive and catalytically active, mechanism of formation, (9) 220*h*.
body, metal coating of, P (7) 161*d*.
evaporation of, effect of tungsten, (4) 101*a*.
hot pressing of, (3) 75*c*.
phosphate sorption by, (7) 176*i*.
powder, in Lucalox, (1) 22*b*.
in structural panels, P (4) 84*a*.
in thermionic dispenser cathode, P (1) 14*a*.
phosphate, as bond for refractories, (11) 259*b*.
containing K or NH_4, X-ray study, (3) 79*b*.
heat of formation of, (5) 125*c*.
manufacture, P (7) 168*c*.
systems. See *Systems*.
plastics, in improving alkali resistivity of protective layers for glass, (5) 110*g*.
powder, production of, P (8) 199*f*.
in producing synthetic quartz crystal, P (10) 238*e*.
production, refractories for, (5) 113*i*.
spectrographic determination in tungstic oxide, (3) 77*j*.
systems. See *Systems*.
titanate, monocrystalline, preparation, P (10) 241*f*.
Amines, aromatic, derivatives of montmorillonite, (6) 147*e*.
Ammonium, chloride, -halloysite complex, (7) 174*e*.
Amplifiers, from semiconductor body, P (4) 94*h*.
Analcite, natural and synthetic, geochemical and X-ray investigation, (3) 74*j*.
Analysis. See also *Chromatography; Colorimetry; Electron diffraction; Microscopy; Particles; Photometry; Quality control; Screens and sieves; Spectrography; Spectrometry; Spectrophotometry; Spectroscopy; Testing; Thermal analysis; Thermodynamics; Thermogravimetric analysis; Titration; X rays.*
chemical, electrochemical device for, P (4) 102*j*.
of mullite and sillimanite, (3) 73*e*.
and optical, of efflorescence, (1) 7*h*.
physical methods, (5) 126*h*.
procedures, valences of elements in, (7) 181*b*.
by push-buttom instrumentation, (7) 165*f*.
qualitative and quantitative, of glass inclusions, (10) 228*i*.
quantitative, B (2) 50*g*.
rapid, of silicate materials, (7) 177*i*.
relation to infrared spectra for chlorites, (4) 101*f*.
and spectrochemical, of Illinois clays, (8) 198*b*.
complexometric, in determination of Al_2O_3 in cement, (7) 154*f*.
crystallochemical, Barker method, B (1) 22*h*.
EDTA, of MgO clinker for basic refractories, (11) 259*c*.
Analysis (*continued*)
electro-, principles and applications, B (1) 25*b*.
fluorescence, X-ray, apparatus, P (7) 165*i*.
fluorescence, X-ray, review of, (7) 181*f*.
gas. See *Gases*.
granulometric, by centrifugal sedimentation, (4) 96*j*.
gravimetric, colorimetric, and volumetric, for determination of silica, (7) 175*a*.
gravimetric, for determination of silica in aluminosilicates, (1) 20*a*.
magnetochemical, of Co- and Ni-containing glasses, (7) 157*j*.
micro-, inorganic, qualitative and quantitative, B (1) 24*f*.
micro-, of S in metals, slags, chrome baths, organic substances, and gases, (9) 220*i*.
phase, of clays, by X rays, (10) 245*c*.
procedures, for silicates, B (2) 49*j*.
quantitative, B (2) 50*g*.
rational, of fire clays, (7) 178*d*.
routine, apparatus for, I, (9) 218*i*.
spectro-, of optical glass, self-absorption of spectral lines in, (5) 111*a*.
spectrochemical, of minor and trace elements in coals, (3) 69*b*.
of nonmetallic samples, (7) 179*e*.
in quantitative determination of Ba and Sr, (7) 177*i*.
of silicates, (5) 127*g*.
of silicates and related oxidic materials, (11) 272*b*.
and structural, of solids, fluids, and gases, by X rays, P (3) 79*g*.
spectrometric, complete, of silicate raw materials and bodies, (9) 216*g*.
statistical, of cement-aggregate bond strength data, (9) 204*i*.
for ceramic process control and experiment planning, (7) 164*i*.
in determination of effect of porosity on dielectric breakdown strength, (4) 92*b*.
of factors affecting life of ladle linings, (1) 9*b*.
of fracture in concrete, I, (5) 107*b*.
need for in sampling and test methods for cement, (5) 106*e*.
theory, of particle size distribution in emulsions and suspensions, (5) 128*b*.
volumetric, Vol. 3, B (4) 104*j*.
volumetric, for determining Al in presence of impurities, (7) 181*d*.
X-ray fluorescence, sample preparation, (9) 220*g*.
Analyzers. See *Gases; Instruments; Oxygen.*
Anatase, magnetic susceptibility of, (7) 174*e*.
Andalusite, manganian, from New Mexico, (7) 174*g*.
in U. S., bibliography of, (2) 44*g*.
Andradite, -spessartite, garnet, from Sweden, (3) 72*j*.
Anhydrite, synthetic, preparation, P (9) 205*b*.
transition from soluble to insoluble, (7) 155*b*.
Anions, negative adsorption by clay suspensions, (5) 125*j*.
role in deflocculation of clays, (11) 271*c*.
Anisotropy, constants, of Ni ferrite, (2) 39*c*.
exchange, in rock magnetism, (9) 213*i*.
ferromagnetic crystalline, of Fe-Mn ferrite system, (11) 262*j*.
magnetic, new type, (4) 92*d*.
optical, measurement on silicate glass fibers, (10) 227*f*.
uniaxial, induced by magnetic annealing in ferrites, (7) 163*k*.
uniaxial, in iron-cobalt ferrites, (6) 142*h*.
Ankerite, X-ray data, (3) 79*f*.
Annealing, of glass. See *Glass*.
magnetic, effect in α-Fe_2O_3, (3) 64*g*.
in inducing uniaxial anisotropy in ferrites, (7) 163*h*.
of yttrium iron garnet, (1) 12*c*.
Anodes. See *Electrodes*.
Antiferromagnetism and antiferromagnetic materials. See *Ferromagnetism and ferromagnetic materials*.
Antigorite, chromian, from Pennsylvania, (6) 147*h*.
Antimony, coating, for glass, P (11) 254*h*.
oxide, glass, composition, P (5) 111*c*.
Aplite, (6) 145*g*.
Apparatus. See *Instruments; Machinery and equipment; Testing;* and specific types.
Aquagels. See *Silica, gels*.
Aqueous systems, new acid-base concept, (11) 253*b*.
Araldite, resin, for ceramic plaster modeling, (5) 114*j*.
Archeology, ceramics of prehistoric Sicily, (6) 131*i*.
detection of remains, instrument for, (3) 52*c*.
excavations at Longton Hall porcelain factory site, (3) 52*b*.
Greek painted pottery, B (7) 182*g*.
Greek, types of glaze failure, (5) 106*b*.
of Main-Franken, late stone age to 6th and 7th centuries A.D., (9) 203*i*.
use of draw pieces as aid in firing ware, (5) 105*f*.
of Yucatan, ceramic developments, B (7) 182*g*.
Architecture. See also *Brick*.
ceramic, of Lübeck historic buildings, (6) 131*i*.
ceramics in, (4) 82*b*.
Dutch, around 1900, (5) 112*i*.
Argon, absorption by glass, (1) 4*d*.
excess, in beryl and other minerals, (3) 74*b*.
purification, P (5) 122*f*.
Arsenates, rare-earth, relation of ionic radius to structures, (3) 77*a*.
separation from phosphate and silicate in solution, (2) 47*c*.
Arsenic, in glass, estimation by polarography, (9) 206*g*.
systems. See *Systems*.
Art and artware. See also *Archeology; Artists; Decoration; Design; Education; Majolica; Pottery; Tile*.

Art and artware (*continued*)
adobe kiln for, (8) 185*h*.
of Battersea enamel wine label, (2) 27*j*.
Berlin, from Middle Ages to present, (6) 132*c*.
bucchero nero, manufacture, (8) 185*g*.
celadon, Chinese ware, B (1) 22*i*.
celadon, survey, (2) 28*a*.
ceramic, in architecture, (4) 82*b*.
Chelsea porcelain, Ehret's botanical designs on, (2) 28*b*.
Chinese, effect of Buddhism on, (7) 154*a*.
from Hunan, (2) 27*j*.
Russian excavations in Transcaucasia, (1) 2*c*.
in Cleveland Museum of Art, description of 4 pieces, (1) 2*e*.
of Daghestan, 15th and 16th century plates, (7) 153*i*.
decorative (1958–59), B (1) 22*j*.
decorative stoves of Fayence Manufaktur Stockelsdorf, (11) 250*c*.
Dutch, modern ceramics in Hetjens Museum, (11) 250*c*.
in English museums, (11) 250*c*.
in Faenza museum, comparison of oriental and European treatment, (1) 2*d*.
fine china, designing of, (8) 185*h*.
at Florence antique show, (6) 131*h*.
garden ceramics, (3) 52*f*.
glass, through the ages, B (9) 224*a*.
Höroldt signature on oval box lid, (5) 106*c*.
Hummel figures, historical and current production, (2) 27*j*.
Italian, work of 66 ceramists, B (9) 222*h*.
Japanese, *Akae* and *Tenkei*, (1) 1*j*.
kerbschlieren decoration, new modeling technique, (11) 250*f*.
Korean, traveling exhibition of masterpieces, (2) 27*j*.
Koryo, literary references to, (2) 28*b*.
Kuan-yao, colors of, (1) 2*e*.
lace figures, British, (1) 1*j*.
in Lübeck, (6) 131*i*.
masterpieces of yesteryear 16, (11) 250*g*.
Meissen, 250 years of, (11) 250*c*.
mosaic, on flat and curved surfaces, (9) 203*i*.
museum, ceramic, contributions from civic collections (3) 52*e*.
nativity groups, (6) 132*b*.
old Imari, B (5) 130*j*.
old Imari blue and white porcelain, B (5) 130*a*.
oriental, in Argentina, (1) 2*b*.
brick ceilings and arches, (1) 1*j*.
nondestructive X-ray analysis, (1) 1*i*.
plates, and vessels, glaze sgraffito on, (9) 203*h*.
Polish, of 17th and 18th century, (7) 153*j*.
porcelain, Berlin, historical, (6) 131*h*.
from Capodimonte excavations, (5) 106*a*.
Chinese 18th century, at Thuringia, Germany, (6) 131*j*.
Chinese, in Umezawa collection, (2) 28*c*.
18th century European, lovers as theme, (4) 82*d*.
English, famous decorators and modelers of, (3) 52*e*.
French, 19th century developments, (3) 52*a*.
German, factory costs in 18th century, (4) 82*b*.
hard, history of decoration, (3) 52*f*.
history of factory in Copenhagen, (3) 52*b*.
of Russian Empire, (2) 28*b*.
Swedish, in 18th century, (4) 82*b*.
Portland vase, composition and physical characteristics of glasses in, (6) 132*c*.
Portland vase, type of glass and opacifier, (6) 131*i*.
Pueblo ware, classification of, (6) 131*i*.
review, of ware from China, Korea, Japan, Babylonia, and Persia, (6) 131*j*.
Royal Rockingham, fame and fall, (1) 2*c*.
of Sardinia, modern trends and tradition, (5) 106*c*.
sculpture, in building, (9) 203*h*.
ceramic, of Franziska Lenz-Gerharz, (11) 250*c*.
miniature, from Athenian Agora, B (6) 151*c*.
stained glass, history, technology, and practice, B (10) 248*g*.
"Swatow," problems of origin, (1) 2*a*.
temmoku, glaze for, (4) 82*d*.
temmoku, spotted, similarity to ancient sherd, (4) 82*c*.
vases, Pargeter-Northwood copy of Portland Vase, (9) 203*i*.
Wedgwood, Museum collection, B (10) 248*h*.
windows, in Canterbury Cathedral, (1) 2*a*.
Artists, of Battersea enamel wine label, (2) 27*j*.
Benini family, color recipes of, (3) 52*b*.
Böttger, role in development of pre-Meissen red stoneware, (3) 52*g*.
Bossanyi, Ervin, window in Canterbury Cathedral by, (1) 2*a*.
Ehret, G. D., botanical designs on Chelsea porcelain, (2) 28*b*.
English, porcelain decorators and modelers, (3) 52*e*.
Heesen, Willem, of Leerdam Glassworks, (7) 153*j*.
Henze, Wolfgang, work of, (3) 52*c*.
Korean, a tribute to, (2) 28*a*.
Lenz-Gerharz, Franziska, ceramic sculptures of, (11) 250*c*.
Paoli, Bruno, Italian, decorative wall tiles of, (6) 132*a*.
Royal Rockingham, from 1831, (1) 2*c*.
Schütz, S., Berlin relief artist, (6) 132*b*.
Turkish, Sadi Diren, (9) 203*j*.
of Wedgwood pottery, B (10) 248*h*.
Asbestos, (6) 145*g*; (7) 167*b*.
-cement pipe, machine for continuous manufacture, P (8) 186*d*.

Asbestos (*continued*)
-cement sheets, effect of moisture content on properties, (2) 28*f*.
-cement-water, electrical conductivity of, (2) 28*i*.
effect on hydration of cement, (2) 28*h*.
embedded in expanded perlite, P (2) 37*d*.
fibers, exfoliating and blending, P (4) 99*a*.
industry, in 1958, (5) 120*h*.
from rock to fabric, B (4) 103*d*.
synthetic, investigations, III, IV, (3) 78*b*.
Ash, coal, destruction of corundum brick by, (8) 191*d*.
coal, determination of P in, (2) 43*j*.
fly, in air-entrained concrete for pavement, (2) 28*e*.
effect on air permeability and neutralization of concrete, (2) 28*c*.
effect on properties of road concrete, (2) 28*j*, in lightweight concrete, (3) 54*b*.
pozzolanic, effect on permanency of Portland cement concrete, (5) 107*a*.
pozzolanic, method of control of additions to Portland cement, (3) 54*h*.
reclamation by pelletizing, P (11) 260*g*.
in structural brick and blocks, I, II, (5) 107*f*.
fuel, pulverized, in brick, (1) 7*a*.
pulverized, brick from, (1) 7*b*.
pulverized, X-ray study of, (11) 268*b*.
rings, in rotary cement kilns, (3) 52*i*.
separator, for powdered coal burning pressurized combustion system, P (4) 97*i*.
for stoneware glazes, preparation, (7) 154*a*.
volcanic, in electrotechnical porcelain, (7) 162*d*.
in glazed decorative tile, (1) 11*a*.
mineral wool from, (10) 228*i*.
Atmospheres, control, molecular sieves in, (6) 148*i*.
furnace, P (5) 120*f*.
apparatus for control, P (8) 197*i*.
device for indicating or controlling, P (6) 145*d*.
effect of summer and fall humidity, (8) 187*h*.
gaseous, changing, destruction of refractory materials in, (10) 233*h*.
gaseous, effect on forsterite products during firing, (10) 232*i*.
kiln, effect on firing shrinkage of brick clays, (9) 210*e*.
measurement of dust in, P (1) 14*i*.
in oil burning, control of, (5) 120*a*.
storage, effect on sintering of ZnO pressings, (10) 236*d*.
H_2O- and D_2O-containing, in study of mechanism of quartz electrolysis, (11) 263*e*.
Atoms, tagged, in study of action of accelerators in glass polishing, (10) 229*d*.
tagged, in study of contamination of steel by refractories, (6) 140*f*.
Augers. See *Extrusion*.
Autoclave, effect on hydrothermal reactions, (5) 126*b*.
expansion, of fired kaolin, effect of additives, (7) 173*b*.
Automation, in ceramic tile manufacture, (8) 193*g*.
of crushing, grinding, screening, and admixing in brick industry, (4) 88*a*.
of enameling processes, effect on cost, (6) 133*i*.
of glass annealing furnaces, (3) 57*a*.
implications for management, B (9) 222*g*.
methods, (8) 196*c*.
in setting of refractories on kiln cars, (8) 195*j*.

Balances. See also *Thermobalances; Weighing*.
quartz-fiber torsion, for magnetic measurements on individual microscopic ferrite particles, (11) 263*b*.
sedimentation, modified Sven Odén, (6) 144*g*.
Ball clay, composition variation, (9) 217*i*.
production in 1958, (5) 120*h*.
Ball mills. See *Mills*.
Barite. See *Barium, sulfate*.
Barium, carbonate, calcination, P (4) 99*d*.
compounds, phase analysis and crystal structure determination, (7) 174*g*.
compounds, in sintered cathode, P (1) 13*g*.
determination by spectrophotometry, (2) 47*e*.
hydroxide, P (7) 168*c*.
niobate, and perovskite-type phases, materials of single-phase region between, (4) 91*j*.
oxide, in enamels for nuclear reactor shields, (8) 187*c*.
in thermionic dispenser cathode, P (1) 14*a*.
systems. See *Systems*.
quantitative spectrochemical determinations, (7) 177*i*.
silicate, studies of formation, (5) 123*f*.
sulfate, luminous reflectances of, (7) 179*a*.
superoxide, synthesis of, (9) 221*h*.
titanate. See also *Dielectrics*.
blast velocity gauge, P (4) 93*j*.
body, with high dielectric constant, P (9) 214*b*.
ceramic dielectric, P (5) 117*c*.
ceramics, dependence of ratio of piezoelectric coefficients on density and composition, (4) 92*a*.
ceramics, domain processes in, (4) 92*f*.
containing Sm, electric properties of, (4) 92*h*.
crystals, dynamic properties of polarizability in, (5) 116*c*.
crystals, growth from KF solutions, (1) 20*i*; comment on, (8) 199*j*.
crystals, 180°-type domain wall of, (2) 40*e*.
development of hexagonal and imperfect tetragonal structures in, (7) 171*f*.
effect of hydrostatic pressure on dielectric properties, (7) 163*a*.
effect on pentavalent cations on electrical properties, (8) 194*j*.
effect of pressure on Curie temperature, (4) 92*g*.

Barium, titanate (*continued*)
electrical properties, effect of contamination from wet milling, (1) 12*e*.
electron microscopy in study of, (1) 19*a*.
in electrostrictive ceramics, P (3) 65*j*.
as ferroelectric material, P (4) 92*j*.
5°C. transition, triple hysteresis loops and free-energy function in, (4) 102*g*.
hysteresis measurements by ultrasonic technique, (9) 214*f*.
infrared-absorption studies, (10) 244*c*.
insulators, P (4) 93*b*.
$PbSnO_3$, amplifier elements of, (10) 237*f*.
lowering of Curie temperature by chemical reduction, (5) 125*d*.
method of forming thin films, P (6) 143*a*.
orthorhombic, neutron diffraction study, (10) 244*h*.
semiconductive, properties of, (2) 40*h*.
single crystals, ferroelectricity of, B (11) 274*d*.
surface space-charge layers in, (11) 263*b*.
symmetry of low-temperature phase, (10) 245*b*.
variation of dielectric constant with temperature, (7) 163*g*.
vapor, absorption spectrum of, (7) 181*h*.
Zr metaniobate, ferroelectric behavior in, (3) 64*i*.
Barytes. See *Barium, sulfate*.
Basalts, Austrian, petrurgic processing into high-wear-resistant material, (2) 49*c*.
Base exchange. See *Cations; Clays; Ions*.
Basicity, of aqueous solutions, development in terms of screening theory, (11) 253*b*.
of molten slags, determination by electrolytic dissociation, (2) 35*h*.
Batching, automatic, of composite mixtures, P (8) 196*c*.
Batteries, storage, separators for, P (4) 91*g*.
Bauxite, (6) 145*g*.
Al_2O_3-containing, reduction of silica content, P (10) 242*d*.
analysis of Al in, (7) 181*d*.
effect on refractoriness under load of high duty firebrick, (5) 113*d*.
Indian, spinel refractories from, (4) 88*j*.
of northeastern Spain, (1) 17*d*.
oxygen treated, in catalyst, P (7) 167*g*.
production, in 1958, (5) 120*h*.
Romanian argillaceous rocks as replacement for in Al industry, (3) 70*e*.
Bearings, crusher, lubricating system for, P (4) 99*g*.
roller, tapered, in kiln car design, (3) 60*e*.
sintered BN composition for, P (4) 90*c*.
structure, with gastight seal, P (4) 86*g*.
Beneficiation. See also *Classification; Classifiers; Crushing and grinding; Filters; Flotation; Screens and sieves; Separation; Separators*.
of clays, P (11) 268*d*.
of glass sands in hydrocyclone, (1) 17*d*.
of magnesite ores, P (1) 17*g*.
of mineral ores, P (5) 121*b*.
of minerals, electrostatic method, P (1) 18*d*.
of ores, P (11) 269*h*.
of titaniferous iron ores, P (8) 198*d*.
Bentonite, addition to kaolin suspensions and earthenware bodies, for increase in pug mill output, (5) 115*c*.
California, evaluation for oil-well drilling muds, (3) 70*h*.
dielectric behavior, (5) 124*h*.
in earthenware, (2) 39*a*.
effect on properties of sand test specimens, (5) 113*j*.
production, in 1958, (5) 120*h*.
silicic acid in, (5) 127*b*.
suspended particles, forces between, B (9) 223*i*.
Texas, acid dissolution, B (9) 223*e*.
Benzene, sorption by "phenyl" montmorillonite, (7) 179*c*.
Beryl, excess helium and argon in, (3) 74*b*.
position of alkaline metals in structure of, (9) 220*d*.
Beryllia, catalysts. See *Catalysts*.
synthetic, grain growth in, (11) 258*j*.
thermal conductivity of, (2) 48*d*.
thermal conductivity, reanalysis of data, (3) 75*h*.
Beryllium, chloride, and Na silicate solutions, metathesis studies, (5) 128*f*.
content, of roscherite from Brazilian pegmatite-mine, (3) 73*b*.
fluoride, liquid, viscosity and electrical conductivity of, (11) 254*a*.
fluoride, systems. See *Systems*.
hydroxide, dense filterable, preparation, P (1) 19*c*.
oxide. See also *Beryllia; Systems*.
effect on properties of electrical porcelain, (5) 115*e*.
as material for nuclear energy, (4) 98*e*.
storage of energy in, (2) 47*j*.
powder, hot pressing of, (7) 160*j*.
properties, and use in nuclear chemistry, (1) 17*f*.
Betekhtinite, crystal structure of, (7) 170*d*.
Bibliographies, of andalusite, kyanite, sillimanite, dumortierite, topaz, and pyrophyllite in U. S., (2) 44*g*.
of DTA as applied to building science, B (4) 103*i*.
of plaster and its uses, (3) 52*h*.
of pozzolans, (4) 82*f*.
of sodium tetraphenylboron, 1958, (1) 17*d*.
of statistical literature, 1930 to 1937, I, II, (6) 149*h*.
of uranium dioxide, B (9) 222*h*.
Binders, alkali metal silicate, for foundry sand molds, P (3) 62*d*.
calcium aluminate, P (5) 113*j*.
clay, effects on oxidation of sintered SiC bodies, (11) 258*j*.

Binders (*continued*)
for coating fibers, apparatus for application of, P (11) 251*b*.
for foundry molds, P (7) 161*k*.
giving high thixotropy, for use with cermets, (5) 113*g*.
hydraulic, process for making hydrophobic, (6) 132*f*.
liquid, for glass fibers, P (2) 32*i*.
organic, effect on ceramic bodies, (9) 215*g*.
organic, for increase in strength of clay bodies, (11) 257*g*.
silica sol, for cement mortar for sulfuric acid service, (5) 107*b*.
thermography in investigation of, (5) 106*g*.
for use in refractory slurry, P (4) 89*a*.
vitreous enamel, for solid lubricant coatings, P (3) 56*a*.
vitrifiable inorganic ceramic, in silver compositions, P (10) 236*i*.
Biotite. See *Mica*.
Birefringence. See *Refraction*.
Bismuth, UO_3 in, slurry preparation, P (9) 222*c*.
Blasting, electric, assembling ceramic plug to lead wires for caps, P (4) 91*e*.
sand, for cleaning biscuit ware, (2) 41*c*.
control system for equipment, P (10) 226*j*.
for domestic glass, (4) 82*a*.
precision machine, P (1) 14*g*.
shot, of cast iron with various grits, (2) 30*f*.
Blending apparatus. See *Mixers*.
Bloating, of clays, formation of keramzite, (8) 190*i*.
properties, of marsh clays, (6) 137*d*.
of tile and brick during firing, (3) 59*j*.
Blunging, method, for clay, P (4) 100*d*.
Bodies, ceramic. See also *Dielectrics*.
bone-china clay-stone, apparatus for measuring relative translucencies, (1) 11*f*.
deformation studies at high temperatures, (5) 125*i*.
determination of spectral emissivity at elevated temperatures, (5) 124*f*.
effect of admixtures of lime to, (6) 141*j*.
effect of organic binders on, (9) 215*g*.
electrical, P (6) 143*e*.
electronic, P (11) 263*e*.
heterogeneous, apparent thermal conductivity under isothermal conditions, (6) 147*c*.
low expansion, (5) 115*g*.
for machine tools, I, II, (1) 1*e*.
mechanical behavior of, (6) 148*g*.
and method of making, P (6) 142*a*.
organic compounds for improvement of unfired strength, (3) 71*a*.
plastic, apparatus for forming, P (7) 164*j*.
plastic, elastic phenomena in, (5) 124*f*.
plasticity of, (11) 261*j*.
porous, moisture expansion of, (3) 63*g*.
preparation and composition, B (3) 57*e*.
rheology of, (11) 271*a*; (11) 271*h*.
textural structure in, (6) 141*i*.
thermal shock resistant, P (7) 162*j*.
Boehmite, microcrystalline, partial dehydration, (9) 220*h*.
in Spanish bauxites, (1) 17*d*.
Boilers, water-tube, monolithic arch in, (10) 232*i*.
Bonding. See also *Seals and sealing*.
of adsorbent materials, P (4) 89*d*.
epoxy, for clay pipe, (11) 257*h*.
of gold to fused silica, effect of oxygen, (4) 100*i*.
metal borides to graphite, P (2) 40*j*.
metallic, of grinding wheel, (2) 27*h*.
phosphate, of refractory compositions, (11) 250*b*.
rapid method for curved automobile windshields, (9) 208*d*.
of sand-lime brick, material in, (11) 250*k*.
strength, development during firing, (6) 138*a*.
of synthetic abrasives, (9) 203*e*.
Bonds, feldspar, relation of sintering and vitrification processes and electrical conductivity, (3) 51*j*.
for vitrified abrasive wheels, melting and softening state, (2) 27*f*.
Bone china, modern techniques for manufacture, (11) 250*c*.
Borates, metal, glassforming, application to surfaces, P (5) 112*g*.
Me, in determination of boric acid in glasses, (4) 84*i*.
Boric acid, determination in glasses, (4) 84*i*.
as mineralizer in spinel refractories, (4) 88*j*.
in oxidation-resistant article, P (3) 62*f*.
preparation, P (5) 121*a*.
production, P (1) 19*d*.
Boric oxide, continuous electrothermic production, P (1) 18*b*.
Borides, high-melting, crystallochemical studies, (11) 270*d*.
metal, bonding to graphite, P (2) 40*j*.
metal, preparation, P (9) 212*d*.
Boron, in borosilicate glasses, analysis by neutron transmission, (6) 134*f*.
carbide, chemical stability of, (10) 232*f*.
carbide, for polishing glass, effect of particle size, (4) 81*f*.
containing carbon in solid solution as bond for ZrB_2 material, P (9) 212*e*.
effect on physical properties of concrete, (3) 54*d*.
in enamel frits, colorimetric determination, (4) 83*h*.
nitride, multiband luminescence in, (3) 65*e*.
preparation for abrasive material, P (11) 249*i*.
preparation by wire growth method, (5) 126*e*.
production of, P (6) 140*h*.
oxide, catalysts. See *Catalysts*.
effect on properties of electrical porcelain, (5) 115*e*.
systems. See *Systems*.
-water, glasses, structure of, (8) 188*d*.
in refractory Mo body, P (5) 108*h*.

Boron (*Continued*)
in silicates, isomorphism, (9) 220*f*.
suboxide, B_7O, crystallographic evidence for, (7) 170*c*.
Brazing. See *Soldering*.
Brick. See also *Masonry; Refractories; Structural materials*.
building, method of changing color, P (3) 60*b*.
causes of bloating during firing, (3) 59*j*.
color change, possible methods, (10) 231*g*.
common, history, appreciation, and physical properties, (8) 190*e*.
determination of mineral content by infrared spectrography, (3) 68*e*.
economy packaging, (11) 257*g*.
efflorescence on, Camerman theory of, (1) 7*e*.
experiments on frost resistance, drying, and discoloration, (7) 159*j*.
extrusion, studies of wire-cut process, (9) 215*j*.
facial texture, effect upon initial absorption rate, (3) 60*a*.
fired-earth, development, IV, V, (6) 137*f*.
firing, importance of heat conduction, (8) 190*f*.
frost resistance. See *Frost resistance*.
future of, (11) 257*i*.
handling machine, P (7) 159*k*.
handmade, in Nyasaland, (10) 231*g*.
hollow, history of, (6) 137*e*.
introduction of steam into kiln at end of firing, (7) 159*i*.
machine for moving brick from press, P (7) 159*g*.
manufacture, use of coal washery tailings and other waste products, (9) 210*c*.
material properties, B (1) 23*f*.
method of backing, P (11) 258*a*.
panels, thin-walled, production experiments, (3) 60*a*.
paving, new Dutch design, (2) 34*k*.
permanent moisture expansion, (8) 190*g*.
plant, modernization and unit cost system, (9) 210*c*.
prefabricated structure elements, Costamagna system A. Blanquet, (5) 113*a*.
production by Columbia Brick and Tile Co. from two tunnel kilns, (11) 257*e*.
from pulverized fuel ash, (1) 7*b*.
pulverized fuel ash in, (1) 7*a*.
raw clays for, double-logarithmic particle size pattern in investigation of, (5) 112*j*.
reducing weight by use of multicored die, (11) 257*f*.
removable-roof kiln for firing, P (10) 231*k*.
for rotary kiln repair, conveyer for supplying, (1) 14*d*.
sales increase by use of Silaneal 772, (11) 257*g*.
sander for application of wet sand to faces of, (9) 210*e*.
sand-lime, bonding material in, (11) 250*k*.
sand-lime, selection of lime for use in, (3) 54*j*.
solid, comparison of methods for measuring strength, hardness, and gross weight, (1) 15*b*.
strains in, effect of drying rate on development, (7) 159*g*.
structures, old European, (2) 34*k*.
surface treatment methods, (2) 34*j*.
thermal conductivity measurement by contact temperature method, (11) 270*e*.
treatment at plant site with Silaneal, (10) 231*k*.
units, for construction, prefabrication, (8) 190*k*.
veneer, for vertical wall, P (7) 160*a*.
Brick industry. See also *Structural clay products industry*.
advantages of direct costing, (11) 257*f*.
automation in, (4) 88*a*.
economics of mechanization in, (1) 7*g*.
Soviet, housing construction in Seven Year Plan 1959–65, (8) 190*k*.
Brickmaking apparatus and equipment. See also *Driers; Kilns; Materials handling; Presses*.
brick cleaning machine, P (1) 7*g*.
Brightness, of clay, improving by flotation and fine grinding, P (6) 146*j*.
Brines, Mg-bearing, processing method, P (6) 140*g*.
British Glass Industry and Buyer's Guide, B (5) 129*i*.
Brittle materials, stress behavior, (1) 21*g*.
study of properties and brittleness tests, (7) 169*a*.
Bromine, trifluoride, synthesis of, (11) 272*i*.
Brookite, magnetic susceptibility of, (7) 174*a*.
Bucchero nero. See *Art and artware*.
Buffers, Britton-Robinson universal, comparison of chemical reactivity in surface and bulk volume, (2) 46*a*.
Buffing compounds. See *Grinding and polishing*.
Building materials. See also *Aggregates; Brick; Enamels; Insulation, thermal; Structural clay products; Structural materials*.
blocks, composition, P (2) 29*g*.
blocks, molded, stripping mechanism, P (8) 190*j*.
ceramic sculpture in, (9) 203*h*.
clay products as, (6) 137*i*.
curtain walls, problems with, (4) 103*c*.
curtain walls, review and analysis, B (4) 103*d*.
DTA of, bibliography, B (4) 103*i*.
enameled, "package" filling stations, (7) 155*e*.
panels, instrument for measuring flatness, (2) 30*d*.
plant layout and equipment for, (5) 108*f*.
enamels as, I, II, (6) 133*i*.
forming from plastic bodies, optimum water content, (3) 67*j*.
glass block unit, P (8) 189*h*.
inadequacy of information on thermal properties, (6) 137*g*.
of lightweight concrete, P (11) 252*a*.
panels, laminated, adhesives for, (5) 108*d*.
laminated architectural, adhesives for, (7) 155*d*.
laminated structural, P (4) 84*a*.

Building materials, panels (*continued*)
thin-walled brick, production experiments, (3) 60*a*.
pottery "fuses," machine for continuous mechanical manufacture, P (5) 117*d*.
Bulbs. See *Glass*.
Burners. See also *Flames*.
Bunsen, of glass, (11) 253*c*.
combination oil and gas, P (8) 198*a*.
construction, P (6) 145*c*.
for fused silica, (9) 220*b*.
gas, flame retention nozzles, P (8) 198*a*.
high pressure, P (9) 217*g*.
industrial, P (11) 267*k*.
polymix, high temperature, P (4) 98*c*.
radiant cup type, P (1) 16*f*.
short flame, I, II, (2) 44*c*.
for gasified oil firing of kilns, (9) 217*i*.
and igniter apparatus, P (8) 198*a*.
louver, for drip-feed kiln, (8) 185*i*.
for mixing gases in tunnel kiln heating zone, (8) 197*f*.
oil, new developments, (9) 217*e*.
pulverized fuel, P (4) 98*a*.
radiant, for fluid combustible mixtures, P (9) 217*c*.
structure, for high temperature gas generators, P (10) 240*g*.
Burning. See *Calcination; Combustion; Firing*.
Burnishing. See *Polishing*.

Cadmium, determination by spectrophotometry, (2) 47*e*.
in glass, simultaneous estimation with Pb, (4) 84*j*.
niobate, hot-pressed, frequency spectrum of, (7) 163*g*.
oxide, in enamels for nuclear reactor shields, (8) 187*c*.
and silver, composite powder from, P (1) 14*b*.
systems. See *Systems*.
sulfide, crystals, growth of, P (11) 273*d*.
in photoconductive semiconductor, P (9) 215*d*.
powder, in photoconductors, (9) 214*i*.
Calcination. See also *Firing*.
of barium carbonate, P (4) 99*d*.
behavior of alumina hydrates during, (7) 177*f*.
of clay, in oil heated shaft kiln, (9) 217*c*.
of clay or clay slate for producing porous clinker, P (11) 268*i*.
equipment, and controls, for pozzolan production, (11) 250*j*.
of gypsum, P (4) 83*c*; P (8) 186*d*.
of gypsum, percolation method, P (4) 83*c*.
of ion-free stannic oxide and silica, (9) 215*h*.
of limestone, P (6) 133*b*.
of limestone, process and apparatus, P (11) 252*c*.
of macrosize alumina hydrate, P (4) 99*c*.
Calcite, cleavage faces, etch pits on, (8) 200*c*.
crystals, study of individual dislocations by microradiography, (9) 221*b*.
melting of, in presence of water and CO_2, (3) 76*b*.
thermoluminescent properties of, (9) 221*i*.
Calcium, (7) 167*b*.
aluminates, anhydrous, action of water and lime solutions on, (7) 168*i*.
hydrated, low-temperature transformations, (3) 54*d*.
from phosphate-containing ores, P (3) 72*d*.
aluminum silicate, systems. See *Systems*.
analogue, of chrondrodite, (3) 73*c*.
-bearing Mg-Fe olivines, chemical and optical data, (3) 73*d*.
β-dicalcium silicate, stabilization by elementary carbon, (6) 133*c*.
carbonate, effect on chrome alumina pink, (1) 10*b*.
finely divided, method of producing, P (10) 241*i*.
mixing with refractory materials for analysis, (2) 36*d*.
precipitated crystals, growth process in, (7) 173*b*.
compounds, in fused slags, confirmation by e.m.f. study, (2) 36*b*.
determination in cement, using Norelco Autrometer, (7) 171*k*.
determination by spectrophotometry, (2) 47*e*.
dicalcium silicate, spontaneous disintegration to powder, (6) 132*g*.
fluoride, crucibles, slip-cast, preparation and properties, (3) 61*b*.
fluoride, systems. See *Systems*.
in glass, determination by flame photometry and spectrography, (1) 4*g*.
hydrosilicates, conditions of formation in system $CaO–SiO_2–H_2O$, (6) 132*d*.
hydroxide, solution, corrosion of iron in, (11) 250*i*.
in kaolin, quantitative flame-spectrometric determination, (6) 148*f*.
-Mg carbonates, relation between lattice constants and composition, (3) 77*b*.
monocalcium orthophosphate, production, P (5) 122*a*.
-mordenite, hydrothermal synthesis, (3) 75*f*.
nitrate, from dolomite, P (4) 100*f*.
oxalate and carbonate, study of thermal decomposition by use of high-precision thermobalance (5) 125*b*.
oxide. See also *Lime*.
addition to coal for cement kiln for prevention of ash rings, (3) 52*i*.
cathodes, on Ni, thermionic emission and conductivity of, (10) 237*j*.
cathodes, study of charge localization on surfaces, (10) 237*d*.
from calcium sulfate, two-step method, P (2) 46*a*.

Calcium, oxide (*continued*)
effect on formation of tridymite, (1) 19*j*.
effect on physical properties of borate-phosphate glasses, (2) 31*b*.
production of, (8) 201*b*.
reactions with glass powder mixtures, (10) 228*j*.
reactivity, determination by DTA and hydration calorimetry, (7) 172*c*.
sorption of water vapor on, (8) 201*e*.
systems. See *Systems*.
silicate, in fertilizer, P (2) 45*f*.
hydrous, in composite structural unit, P (11) 251*e*.
production, P (3) 72*a*.
systems. See *Systems*.
tricalcium, ball-mill hydration at room temperature, (7) 169*g*.
sulfate, crystallization, (7) 172*i*.
$CaSO_4 \cdot 2/3H_2O$, formation in dehydration of gypsum, (11) 250*j*.
hemihydrate, manufacture by grinding-burning method, (5) 107*d*.
hemihydrate, reactions with $3CaO \cdot Al_2O_3$, $4CaO \cdot Al_2O_3 \cdot Fe_2O_3$, and $2CaO \cdot Fe_2O_3$, (10) 226*d*.
hemihydrate, transition to insoluble anhydrite, (9) 221*i*.
sulfide, crystals, in ring formation in rotary cement kiln, (5) 107*g*.
in glass, effect of temperature and O, (7) 156*c*.
reaction with CaC_2 in melts to 2900°C., (5) 127*f*.
sulfoaluminate, as admixture for expansive cements, (8) 186*d*.
superoxide, synthesis of, (9) 221*e*.
titanate, monocrystalline, production, P (9) 218*a*.
titanate, in optics and electronics, (6) 142*g*.
titration, P (4) 103*a*.
tricalcium phosphate, new form, (8) 201*d*.
tricalcium silicate, effect on strength-producing properties of cements, (9) 204*i*.
$3CaO \cdot SiO_2$ cells, precise determination of and interpretation of X-ray diffraction patterns, (5) 126*c*.
in wolframite ore, determination, (3) 73*i*.
Calibration, of goniometer of counter tube X-ray diffractometer, (5) 119*c*.
Calorimetry, bomb, studies in, XI, (6) 148*i*.
dynamic differential, principles and applications, (1) 20*e*.
dynamic differential, in study of dehydration of hydrargillite, (5) 128*i*.
hydration, in determining reactivity of CaO, (7) 172*c*.
water, for direct measurement of thermal conductivity, (3) 68*d*.
Cameras. See also *Photography*.
back reflection, cassette and holder for, P (2) 43*a*.
X-ray powder, construction and calibration, (1) 15*g*.
X-ray powder, modified MacEwan, (1) 15*a*.
Capacitors, ceramic, forming method, P (5) 117*f*.
electrical, with dielectric coatings, P (3) 65*h*.
of high permittivity ceramic, P (10) 238*d*.
TiO_2, method of making, P (1) 13*f*.
Capillarometry, study of pores in ceramic bodies (5) 123*h*.
Carbides. See also specific types.
cemented, B (6) 150*a*.
EDTA titration of Co in, (10) 244*a*.
process of making, P (10) 235*b*.
production, P (1) 10*d*.
in hard metal alloy, P (1) 10*c*.
high-melting, crystallochemical studies, (11) 270*d*.
metal, as coatings for graphite, P (4) 89*d*; P (8) 192*g*.
metal, in cutting tool, P (1) 1*g*.
sintered, for cutting tools, (11) 249*g*.
Carbon. See also *Graphite; Refractories*.
behavior in steel melted in Al_2O_3-SiO_2 crucibles in vacuum, (10) 233*d*.
black, in formation of TiC from Ti hydride, (8) 191*j*.
pellets, casehardening of, P (2) 45*j*.
production increase in 1959, (11) 268*a*.
in synthesis of TiC, (7) 161*b*.
wet pelleting process and apparatus, P (11) 260*d*.
body, with increased density, P (7) 161*e*.
-carbon boron, as thermocouple for temperatures above 2000°C., P (11) 267*e*.
-containing alloys, ceramic mold for casting, P (11) 260*d*.
deposits, from thermal decomposition of gas, (3) 69*a*.
dioxide, effect on polished surface of flint glasses, (10) 229*f*.
reaction with cement mortars, (9) 204*f*.
for treating foamed concrete for insulating units, (5) 107*e*.
and water, melting of calcite in presence of, (3) 76*b*.
dispersed particles, emissivity of, (6) 147*h*.
electrodes, for electric furnaces, protection of, P (11) 261*a*.
in electron tubes, B (7) 183*c*.
elementary, in stabilization of β-dicalcium silicate, (6) 133*c*.
Hall effect and magnetoresistivity, (2) 39*d*.
hard crystalline, erosion of, P (10) 239*b*.
hard crystalline, polishing of, P (8) 185*f*.
level, of furnace gases, measurement, P (9) 217*d*.
materials, properties, B (1) 23*f*.
monoxide, attack on firebrick impregnated with alkali salts, (10) 232*a*.
dissociation by iron compounds, (2) 46*h*.
total absorptivities of, apparatus for measuring, (7) 173*d*.
Carbon (*continued*)
refractories. See *Refractories*.
shaped bodies of, P (4) 80*j*.
systems. See *Systems*.
thermoelectric power, electric resistance, and crystalline structure, (3) 78*f*.
Carbonaceous materials, aggregating, P (3) 71*h*.
effect on raw materials, (2) 44*e*.
furnace for high temperature purification in halogen-containing gases, P (4) 89*j*.
graphitizing residues of thermal decomposition of, P (11) 260*j*.
Carbonates, Ca-Mg, relation between lattice constants and composition, (3) 77*h*.
interaction with clays and soluble salts during DTA, (3) 73*j*.
Carburation, of generator gas in glassmelting furnaces, use of resin, (1) 5*j*.
Carnotite, and alkali analogues, synthesis and properties, (4) 102*a*.
Cartridges, single element stereophonic, precision piezoelectric ceramics for, (8) 194*g*.
Casehardening. See *Hardening*.
Casting. See also *Molding; Molds; Refractories; Slip casting*.
of alumina suspensions, effect of aging, (2) 48*e*.
continuous, block graphite mold for, P (11) 260*c*.
of large sections of basic refractories, (11) 258*f*.
metal, hollow fiber glass core for, P (3) 58*f*.
precision, investment molds for, P (7) 161*b,c*.
precision, mold for, P (8) 193*e*.
vacuum, of saggers, (11) 259*g*.
vacuum, of sanitary ware, (5) 115*e*.
vibration for accelerating rate of, (2) 41*h*.
of ware with highly dispersed clay bodies, (11) 261*h*.
Castings, impregnants for, (4) 83*g*.
metal, enamel cement for filling holes in, (11) 252*h*.
Casting slips. See *Slips*.
Cast iron. See *Enameling metals; Iron*.
Catalysis, of MgO-Cr_2O_3, change during spinel formation, (5) 123*j*.
Catalysts, activation of clays for, P (7) 167*d*.
alumina-supported shock-cooled, for hydroforming process, P (1) 18*j*.
bases, synthetic alumina, P (3) 72*d*.
bed, support, P (1) 9*i*.
beryllia-boria, P (4) 99*d*.
Cr oxide on Al orthophosphate, P (8) 199*b*.
cobalt molybdate-alumina, P (4) 99*f*.
Co-Mo-Al_2O_3, P (5) 122*h*.
cracking, acidity of, (11) 253*b*.
cracking, from kaolin, P (3) 71*g*.
for dehydrogenation process, P (2) 45*f*.
desulfurization, P (4) 99*a*; P (5) 121*h*.
for desulfurization of gas oil, P (1) 18*h*.
double skeleton electrode, P (7) 161*i*.
hydrocarbon conversion, P (2) 45*d*.
attrition resistant support, P (3) 71*j*.
silica-alumina support, P (1) 18*a*.
hydrodesulfurization, P (4) 99*e*.
for hydroforming process, P (1) 18*i*.
isomerization, P (7) 167*i*.
manufacture, P (1) 18*f*.
MoO on alumina, P (4) 99*h*.
oxidation, P (3) 72*a*.
particles, P (1) 19*b*.
pellets, method and apparatus for making, P (3) 68*a*.
polymerization, composition, P (1) 17*i*.
polymerization, consisting of oxygen treated bauxite, P (7) 167*g*.
preparation, P (1) 19*g*; P (3) 72*c*.
silica-alumina, P (3) 71*e*.
co-precipitated, P (3) 71*b*.
for hydroforming process, P (1) 18*a*.
silica-based, preparation, P (1) 19*c*.
solid spherical, P (2) 45*b*.
supported, Mo-containing, P (3) 71*h*.
zeolite, cracking process with, P (4) 99*j*.
Catalytic activity, of soot surfaces, (1) 20*d*.
Cathode-ray tubes. See *Tubes*.
Cathodes, assemblies, method of making, P (4) 94*d*.
CaO on Ni, changes in thermionic emission and conductivity during activation and poisoning, (10) 237*j*.
cold, for electron discharge devices, P (11) 263*f*.
control of electron emission in, P (4) 93*g*.
dispenser, thermionic, P (8) 195*a*.
materials and structures, B (7) 183*c*.
oxide-coated, charge localization on surfaces, (10) 237*d*.
performance in H_2, (4) 91*i*.
reversible poisoning by S, O, and other gases, (10) 237*f*.
sintered, for electron tube, P (4) 94*f*.
sintered, method of making, P (1) 13*g*.
supports, oxide coated, for electron tubes, P (7) 156*a*.
thermionic, composition, P (7) 164*f*.
dispenser, P (1) 14*a*.
method of making, P (11) 264*e*.
Cations, adsorbed univalent, effect on dehydration of kaolinite, (7) 172*j*.
distribution, in ferrospinels—Mg-Mn ferrites, (7) 169*c*.
in ferrospinels, theoretical, (4) 100*h*.
in Fe-Mn ferrite system, electrical resistance measurement of, (2) 39*i*.
in Mn ferrite, (4) 91*j*.
exchange, capacity, application of, (9) 218*j*.
capacity, of clay minerals, I-III, (10) 243*i*.
of chain-type polyphosphates, (5) 123*i*.
in fire clays, structural significance, (11) 272*d*.
exchangeable, diffusion in vermiculite, (8) 200*i*.
exchangeable, effect on dehydroxylation of montmorillonite, (7) 175*b*.
Cations (*continued*)
inorganic-organic, exchange on montmorillonite, (7) 174*b*.
pentavalent, effect on electrical properties of $BaTiO_3$ ceramics, (8) 194*j*.
Celadon. See *Art and Artware*.
Celluloid, finishing abrasives for, (4) 81*i*.
Cement, (7) 167*b*. See also *Concrete; Mortars; Plasters; Pozzolans; Refractories*.
aggregate, bond strength, dependence on aggregate size, (10) 225*i*.
-aggregate, bond strength data, (9) 204*i*.
aging in air, effect on properties, (5) 106*i*.
alumina, in fire concrete building elements, (6) 132*e*.
complexometric determination of Al_2O_3 in, (7) 154*f*.
treating process, P (5) 108*b*.
asbestos-, pipe, machine for continuous manufacture, P (8) 186*d*.
asbestos-, sheets, effect of moisture content on properties, (2) 28*f*.
-asbestos-water, electrical conductivity of, (2) 28*i*.
-asbestos-water, heat of hydration, (2) 28*h*.
ASTM Standards, B (2) 49*d*.
Ba aluminous, as binder for refractory concretes, (6) 133*b*.
Ca-containing, in water hardening mixture, P (2) 29*i*.
for cementing glass tile to walls, (2) 31*i*.
cementitious material, hydraulic, P (2) 29*j*.
as insulation, preheating of, P (4) 83*a*.
structural, P (1) 3*c*.
Cr in, (5) 106*i*.
clinker, calculation of chemicals by matrix algebra, (7) 154*d*.
control of bed-depth in cooler by gamma rays, (7) 154*h*.
cooling devices for, P (2) 29*h*.
effect of temperature on grindability and quality, (5) 107*c*.
microscopic study, (3) 54*h*.
production in shaft kilns in Australia, (5) 107*h*.
with various Al_2O_3 contents, effect of gypsum, (7) 154*h*.
X-ray study of silicates of, (3) 55*a*.
colored, study of behavior, (5) 107*d*.
composition and method of preparation, P (5) 107*i*.
content, determination in stabilized ferruginous soils, (8) 186*b*.
determination of Fe, Ca, Si, Al, and Mg in, use of Norelco Autrometer, (7) 171*h*.
effect on, creep of mortar, (3) 54*c*.
quality of castable refractories, (10) 232*d*.
sulfate attack of concrete, (9) 204*c*.
engineers, handbook for, B (6) 150*d*.
equipment for manufacturing, comprehensive study, (3) 55*d*.
expanded cellular products, P (10) 226*e*.
expansive, Ca sulfoaluminate admixtures for, (8) 186*d*.
false set. See *Set*.
ferric, with high hydraulic value, (3) 53*f*.
fire resistant, Portland-type, P (5) 107*j*.
fused alumina, refractory concrete from, B (6) 152*i*.
gel aqueous slurry, for wells, P (11) 251*e*.
gypsum, P (4) 83*f*.
hardened finely ground, for speeding setting time of concrete, (6) 133*e*.
hydrated, measurement of ionic charge on, (4) 82*f*.
hydraulic, compositions, P (7) 155*b*; P (11) 251*i*.
hydraulic, -polyurethane compositions, for coating, sealing, patching, and surfacing, P (2) 29*a*.
hydrophobic, (6) 132*f*.
imports, in 1959, (10) 226*a*.
lean, for glass wall tile, (8) 188*j*.
lightweight, containing ground coconut shell, P (10) 226*b*.
lime-slag, for use in masonry, V, (9) 204*c*; VI, (11) 251*g*.
low-alkali, production from high-efficiency kilns, (6) 132*i*.
Mg, in fibrous panels, process for steam treating, P (11) 252*b*.
Mg oxychloride, composition, P (10) 226*c*.
manufacture, suitability of raw gypsum for, (4) 83*a*.
masonry, preparation and test results, I, II, (9) 204*d*.
materials, B (6) 150*e*.
from metal oxides and chelating agents, P (9) 205*a*.
mills. See *Mills*.
mixing aluminous and rapid-hardening to accelerate set, (3) 52*j*.
mortars. See *Mortars*.
nepheline in raw mix, (3) 54*g*.
oxides in, increased speed and accuracy in determination, (7) 165*g*.
paste, lime-quartz, hydrothermal reactions in, (5) 106*h*.
paste, pressures produced in by alkali-aggregate reaction, (4) 82*g*.
plants, application of industrial engineering, (6) 133*a*.
dust eliminators for, (1) 22*b*.
operations, filters for, (3) 53*g*.
in Peru, (3) 54*c*.
Portland, aeration as cause of false set in, (9) 204*a*.
-blast furnace slag, in air-entrained concrete, freezing and thawing resistance, (2) 28*f*.
clinker minerals of, effect on properties of steam-treated concretes, (3) 53*f*.
control of fly ash additions, (3) 54*h*.

Cement, Portland (*continued*)
effect of Cu, Pb, and Zn compounds and sugar on setting of, (2) 28*g*.
grinding studies, (10) 226*a*.
manufacturing apparatus, P (11) 251*j*.
method of estimating quality of admixtures, (10) 226*b*.
from oil shale, P (2) 29*e*.
paints based on, P (8) 186*e*.
paste, effect of powdered minerals and fine aggregate on drying shrinkage, (3) 53*i*.
strength variations, (3) 55*b*.
variations in, (9) 204*i*.
Portland Cement Association's 10 years progress in research, (10) 226*c*.
powdered, conveyer for, P (11) 251*g*.
for preparation of ceramic thin sections, (6) 148*i*.
production, computer for automation of, (4) 97*e*.
production, in Russia, (10) 225*j*.
quick setting, for underwater use, P (5) 108*c*.
raw material, pneumatic mixing system for, (2) 29*b*.
raw materials and products, determination of Al in, (5) 106*d*.
raw meals, effect of fluorspar and pyrites on reaction below 1100°C., (6) 132*h*.
refractory. See *Refractories*.
roofing tile, device for troweling coatings on while moving, P (11) 251*i*.
self-hardening alkali- and acid-proof water glass, capable of swelling, P (11) 252*e*.
set of. See *Set*.
shrinkage and cracking, (5) 107*h*.
slag, relation of degree of hydration to strength, (8) 185*j*.
slurry, for cementing casings in borehole, P (11) 251*d*.
hydraulic, composition, P (7) 155*a*.
low water loss, of carboxymethyl dextran and salts thereof, P (2) 29*a*.
for spark plugs, P (4) 91*a*.
steel-, contacts, potential difference at, (3) 54*a*.
substitution of fly ash for portion of in pavement concrete, (2) 28*e*.
testing, need for statistical sampling and standard test methods, (5) 106*e*.
thermography in study of, (5) 106*g*.
water-, ratio, effect on air voids in concrete, (1) 2*j*.
white, process for, P (11) 252*e*.
Cement industry, measurement of barrels or tons for, (3) 52*j*.
role of pozzolans in, (1) 2*g*.
tube mills for, history and patent literature, (11) 265*b*.
Centrifuges, long-arm, for particle size analysis, (2) 42*j*.
modification for use to 500° with temperature measurement during operation, (4) 96*g*.
sedimentation, for granulometric analysis, (4) 96*j*.
Ceramic Data Book, 1959–1960, B (5) 129*j*.
Ceramic engineering. See *Engineering*.
Ceramic industry, Brazilian, raw materials in, (5) 129*h*.
British, technical development, (11) 273*f*.
depreciation and percentage depletion, I-III, (6) 149*h*.
development in U.S.S.R., (11) 273*f*.
elements of engineering design for, (2) 49*a*.
European, 1959 directory of, B (6) 150*h*.
German, availability of U compounds, (6) 149*j*.
Indian, historical development, (7) 182*c*.
in Lübeck, (6) 131*i*.
natural gas as fuel for, (8) 197*j*.
oil firing in, (9) 217*f*.
reduction of production costs, new products, and education, (9) 222*e*.
sources of, historical survey, (5) 129*i*.
Ceramic materials. See also *Bodies, ceramic; Raw materials;* and specific types.
advantages in design engineering, (6) 141*b*.
for aircraft, (10) 232*j*.
in aviation, (9) 222*e*.
ductility of, research programs, (5) 116*b*.
effect of mechanical treatment on reactivity of solids, (5) 124*b*.
effects of nuclear radiation, (8) 201*f*.
for electron tubes, B (7) 183*c*.
equipment for investigation of reactions and physical properties, (7) 178*j*.
for gas turbine blades, (1) 9*h*.
for gyroscope components, (10) 236*a*.
high-temperature, properties at room temperature, (8) 201*i*.
Lucalox, new extremely dense, (1) 22*b*.
magnetic separators for iron removal, (3) 67*h*.
mechanical properties, (7) 182*e*.
moisture expansion of, (8) 199*j*.
molding of, with thermosetting resin, P (10) 239*c*.
nonplastic, shaping by injection molding, (3) 67*e*.
for nuclear reactor controls and poison components, (9) 210*i*.
production, P (7) 167*h*.
spectrographic analysis, (7) 179*g*.
Suransk pyrophyllite as, (6) 146*f*.
thermal conductivity of, measurement to 1200° C., (3) 68*d*.
Ceramic societies, British, history, (3) 79*h*.
German, history of, (2) 49*b*.
Ceramoplastic, manufacture by hot pressing, P (1) 13*b*.
Ceramuls. See *Cermets*.
Cerium, oxide, systems. See *Systems*.
Cermets. See also *Turbines, blades*.
Al_2O_3-Cr, fabrication by hot pressing, (6) 138*i*.
Al base, P (11) 260*a*.
Al-ceramic, as coating, P (2) 30*e*.
Cermets (*continued*)
carbide-based, as high temperature materials, B (9) 224*c*.
containing Mo, Re, and W, P (11) 261*c*.
containing Si and Ge, P (10) 241*b*.
elasticity and density at room temperature, (8) 201*i*.
experiments in treatment as true ceramics, (5) 113*g*.
with high impact strength, P (5) 114*c*.
hot pressing of, (7) 160*j*.
mechanical- and heat-resistant, use of, (6) 148*g*.
for nuclear reactor controls and poison components, (9) 210*i*.
preparation and high-temperature properties, (8) 191*d*.
reinforced heat-resistant, P (11) 261*c*.
slip casting of, (4) 88*h*.
of superior lubricating properties, P (4) 90*c*.
of system TiC-Co, hydrostatic pressing of, (4) 95*b*.
TiC-base, microstructural changes at 2000°F., (9) 211*f*.
TiC-base, sintering of, I, (2) 36*j*; II, (7) 160*h*.
Cesium, recovery, P (7) 182*a*.
Chamotte. See *Grog; Refractories*.
Checker-brick. See *Refractories*.
Chelates, in dental cements, P (9) 205*a*.
Chemical analysis. See *Analysis*.
Chemical engineering. See *Engineering*.
Chemical industry, Ti and Zr in, (3) 71*d*.
Chemicals, resistance of optical glass to, (7) 157*d*.
Chemistry. See also *Analysis; Crystal chemistry; Geochemistry*.
analytical, advanced, B (1) 22*g*.
of silicate materials, (3) 68*d*.
treatise on, Vol. I of Part I, B (6) 152*g*.
of clays and other ceramic materials, B (3) 79*i*.
inorganic, progress in, Vol. I, B (9) 224*i*.
nuclear, use of Be in, (1) 17*f*.
physical, as basis for analysis of paragenesis of minerals, B (10) 247*e*.
of clay bloating, (8) 190*i*.
measurements at high temperatures, B (10) 247*i*.
processes during firing of dolomite-serpentine mixes, (6) 139*a*.
processes of enameling Al, (8) 187*f*.
of system Al_2O_3-SiO_2, (7) 178*i*.
radio-, in study of solid compounds, I, II, (7) 177*e*.
silicate, introduction to, B (1) 24*j*.
thermo-, of samarium, (9) 221*e*.
Chert, cherty nodules with Fe-Mn deposits in cherty rocks, (1) 17*g*.
China. See *Art and artware; Dinnerware; Porcelain*.
China clay. See *Kaolin*.
Chlorides, metal, effect of vapors of on surface hardness of glass sheet, (7) 157*b*.
Chlorination, of titanium oxide, P (9) 218*i*.
of Zr-bearing materials, P (5) 122*f*.
Chlorine, reaction with graphite, study by magnetic susceptibility measurements, (1) 19*i*.
for removal of iron from raw materials, II, III, (2) 44*e*.
Chlorite, bodies, dielectric loss and insulation resistance, (4) 92*c*.
Cr, structural and chemical variation, (4) 102*a*.
in evaluation of Scottish fire clays, (7) 170*c*.
expandable clay minerals from, effects and geologic significance of K fixation, (3) 74*i*.
infrared spectra, relation to chemical analysis, (4) 101*f*.
Mg-Al, synthetic, X-ray study, (3) 79*d*.
mineral, associated with vermiculite, (7) 170*d*.
synthesis, structural and chemical constitution, (4) 102*i*.
Chondrodite, Ca analogue of, (3) 73*c*.
Chromate, alkali metal, from chrome ores, P (3) 71*h*.
Chromaticity. See *Color*.
Chromatography, gas, separations by, (1) 19*j*.
Chrome. See *Chromium; Refractories*.
Chrome-magnesite brick. See *Refractories*.
Chromia. See *Chromium, oxide*.
Chromite. See also *Refractories*.
explanation of, moment data for, (7) 176*i*.
Chromium, baths, S determination in by microanalysis, (9) 220*i*.
in cements, (5) 106*i*.
chloride, metathesis of Na silicate with, gelation studies, (5) 128*d*.
chlorite, structural and chemical variation, (4) 102*a*.
chromic oxide, sublimation at high temperatures, (11) 272*f*.
Cr^{+4}, in single ruby crystal, paramagnetic fine structure spectrum, (2) 47*e*.
Cr^{+3} ions, absorption bands in solutions, crystals, and glasses, (6) 134*d*.
Cr_2WO_6, new trirutile compound, (10) 243*f*.
in coloring of tin oxide opaque glazes, (1) 10*i*.
in container for molten glass, P (1) 6*d*.
ore, reaction with lime in limekiln, (7) 154*g*.
oxide, alkali metal modified ferromagnetic, use in recording members, P (6) 143*a*.
Sb-modified ferromagnetic compositions, P (6) 143*b*.
for black glazes, (7) 153*i*.
catalysts. See *Catalysts*.
contents in glass sand, (2) 32*h*.
-copper oxide, hydrogels, P (5) 121*g*.
crystal, antiferromagnetism in, (11) 262*i*.
effect on adherence of ceramic coatings to stainless steel, (2) 30*b*.
ferromagnetic structure, (1) 13*f*.
in high temperature enamels for low carbon steel, (8) 186*i*.
for increasing burnability of dolomite clinker, (7) 154*i*.
Chromium, oxide (*continued*)
preparation, P (6) 146*j*.
superexchange interactions forming magnetic lattices, (2) 48*h*.
systems. See *Systems*.
Sn-modified ferromagnetic, use in recording members, P (6) 143*g*.
with unfritted lead glazes, experiments, (8) 194*a*.
as plating for dies and nozzles, (4) 95*b*.
silicates, studies of formation, (5) 123*g*.
systems. See *Systems*.
Chrysotile, morphology of, B (9) 223*a*.
synthesis, P (7) 168*g*.
synthetic, study of tubular primary crystals of, (5) 123*c*.
Circuits, printed, directly on ceramics, Cu paste for, (6) 142*d*.
sandwiched in glass, P (9) 215*c*.
by screen process, CuO paste for, (11) 263*i*.
Classification. See also *Separation; Separators*.
of dielectric powders in electric fields, (2) 39*e*.
of Indian mica on basis of power factor, (3) 70*b*.
methods, for fine aggregates, I, (2) 70*d*; II-III, (5) 121*a*.
rapid, of mica on basis of electrical properties, (10) 237*e*.
by sieving, principles and problems, (6) 144*b*.
Classifiers. See also *Beneficiation*.
aerodynamic, P (4) 98*i*.
air, P (10) 239*c*.
centrifugal wind, P (6) 146*h*.
and comminuting system, P (6) 146*i*.
cyclone, discharge chamber, P (4) 95*c*.
for finely divided material, P (4) 99*i*.
flotation, for minerals, P (6) 146*h*.
forced circulation, on precision grinder, P (8) 190*l*.
hydrocyclone as, for glass sands, (1) 17*d*.
for integrated dry materials, P (11) 265*g*.
for loose material, P (4) 99*a*.
particle, P (10) 239*g*.
particle, air directing and particle removing structure for, P (10) 239*f*.
pneumatic, P (5) 121*g*.
and pulverizer, P (10) 239*j*.
for raw mineral materials, P (1) 18*c*.
for solid products, P (11) 269*h*.
Clays, (6) 145*g*; (7) 167*b*. See also *Ball clay; Fire clay; Kaolin*.
acid activated, for use in refining petroleum, P (11) 269*g*.
activation, for catalysts, P (7) 167*d*.
adjustment to chemical change, B (9) 223*e*.
adsorption of methylene blue by, (6) 147*d*.
African deposits, (11) 268*b*.
Al_2O_3-containing, reduction of silica content, P (10) 242*b*.
alumina content, rapid determination, (7) 177*j*.
analysis, of Al in, (7) 181*d*.
spectrophotometric methods, (9) 216*g*.
by thermobalance, (1) 15*d*.
Arkalykskii, use of, (1) 17*c*.
behavior during drying, (5) 118*d*.
beneficiated, P (11) 268*d*.
bloating, physicochemical nature, (8) 190*i*.
blunging method, P (4) 100*d*.
Brazilian, plasticity and strength, (5) 121*d*.
brick, factors affecting color, (10) 231*g*.
factors affecting drying, (5) 112*j*.
firing-shrinkage characteristics, (9) 210*e*.
flow in automatic experimental extruder, (6) 143*j*.
grain structure determination, (5) 112*j*.
brightness, improving by flotation and fine grinding, P (6) 146*j*.
British, effect of pH adjustment, (3) 70*d*.
California bentonitic, evaluation for use in oil-well drilling muds, (3) 70*h*.
of Campeche calcareous sediments, (2) 44*d*.
cation exchange capacities, (7) 169*e*.
from caverns, study by infrared, (1) 17*d*.
chemical analysis, rapid method, (7) 177*i*.
chemistry and physics of, B (3) 79*i*.
chrome mica-, in Utah, (3) 73*i*.
or clay slate, producing porous clinker from, P (11) 268*i*.
cobaltiferous, synthesis of, (7) 180*h*.
colloidal dispersion of, (5) 123*c*.
common, technology of products from, B (1) 25*j*.
-containing material, prevention of swelling by use of alkyl polyamine, P (11) 270*a*.
definitions, Portuguese translation, (8) 198*c*.
deflocculation, role of anions in, (11) 271*c*.
dehydroxylation, effect of sample size and dilution on kinetics of, (11) 270*j*.
deposits, of Middle Rhine, Germany, (6) 145*j*.
dry, rehydration and resulting size variation, (5) 118*a*.
dry cross-bending strength, factors affecting, (7) 169*f*.
effect of HF vapor on, (11) 270*h*.
enameling, requirements for, (3) 55*i*.
evaluation for clay products, (7) 167*c*.
feats of, (10) 246*e*.
formation, factors affecting, B (9) 223*g*.
formation, from rock weathering, in Hawaii, (10) 241*c*.
from Hardin County, Ill., rare earth and trace element content, (9) 218*c*.
high-intensity dispersion, (3) 63*i*.
humidity drying in sealed vessel, (6) 141*f*.
Illinois, chemical and spectrochemical analyses, (8) 198*b*.
Indian, mineralogical nature, (7) 175*f*.
Indian, X-ray study of, (3) 71*e*.
interaction with carbonate and soluble salt during DTA, (3) 73*j*.
Israeli flint, refractory properties of, (0) 218*d*.

Clays (*continued*)
Japanese, mineralogical study, B (4) 104*b*.
kandite-containing, effect of heat, (7) 172*b*.
kaolinite-illite, oriented aggregation, differential drying shrinkage, and recovery from deformation, (7) 176*h*.
latent interparticle forces in, (3) 75*j*.
light-burning, resources in La Salle County, Ill., (8) 198*b*.
for lightweight aggregates, (11) 257*f*.
for lightweight aggregates, characteristics and requirements, (6) 145*a*.
low melting, measurement of viscosity by twisting of specimen, (1) 15*c*.
marsh, bloating properties, (6) 137*d*.
Mexican refractory, DTA of, (2) 35*c*.
minerals. See also specific types.
associated with gold and silver bearing quartz veins, analysis of mechanism of alteration, B (9) 223*f*.
cation-exchange capacity, I–III, (10) 243*i*.
composition of Recent marine sediments, (7) 170*e*.
control of dispersion characteristics with phosphate dispersants, (11) 268*c*.
distribution in great soil groups, B (9) 223*g*.
in domestic kaolins, (7) 166*j*.
DTA between 0° and −195°C., (7) 172*a*.
expanding lattice, reactions with glycerol and ethylene glycol, (3) 77*f*.
Fourier transform methods for studying scattering from, (7) 173*g*.
fractionated, plasticity and thixotropy of, (5) 126*i*.
homoionic, water sorption properties, (3) 79*e*.
ion exchange in, (8) 200*g*.
kinetics of thermal dehydration of, I–IV, (7) 174*a*.
mixtures, high-temperature reactions and ceramic properties, I, (3) 75*h*; II, (11) 270*f*.
postdiagenetic environmental relations in Gulf Coast Eocene, B (9) 223*f*.
Proceedings of Sixth National Conference (1957), B (9) 223*a*.
reaction with polyphosphates, (5) 127*g*.
simple aid to identification, (3) 77*e*.
small angle scattering of X rays by, (5) 127*c*.
stability and formation during weathering, B (9) 223*h*.
study of high temperature reactions by X-ray methods, (7) 180*a*.
water sorption characteristics, (3) 79*c*.
Ohio, development of lightweight aggregate from, (10) 231*f*.
Oligocene, of Le Puy-en-Velay basin, (4) 98*i*.
organophilic, as gelling agent in metal lapping compound, P (11) 250*a*.
origin of Karlsbad mine deposits, (3) 70*f*.
papermaking, handling and conditioning method, P (6) 146*c*.
particles, in aqueous suspension, size and shape of, B (9) 223*a*.
particle size analysis, III, (7) 162*i*.
peptization of, (7) 176*j*.
plastic, moisture redistribution during storage, (7) 175*j*.
plasticity of, (6) 148*a*.
plasticity of, properties affecting, (6) 148*j*.
proceedings of sixth national conference on clays and clay minerals (1957), B (9) 223*a*.
production and uses, 1958 summary, (5) 120*h*.
products, for contemporary buildings, (6) 137*i*.
properties, effects of absorbed cations on, (9) 218*j*.
quantitative phase analysis by X rays, (10) 245*c*.
quartz content, determination by X rays, (5) 124*d*.
raw, for brick, double-logarithmic particle size pattern in investigation of, (5) 112*j*.
refractory, Colorado deposits, (6) 146*d*.
refractory, Dakota formation, in Kansas, (8) 191*b*.
search for new deposits in Alberta, (6) 149*j*.
semiacid, in grogless brick, (10) 232*e*.
shrinkage, differential, caused by particle orientation, significance in testing, (7) 171*j*.
strength, testing of, review, (11) 268*i*.
suspensions, curved sieve for purification, (11) 264*j*.
suspensions, negative adsorption of anions by, (5) 125*j*.
-water, properties, role of surface tension in determining, (10) 245*d*.
winning, machines for, (1) 17*h*.
-working machinery, efficiency evaluation, (8) 196*a*.
Cleaners, formulations and cycles, for metals, (4) 83*g*.
for glass container molds, (9) 207*d*.
ultrasonic, (5) 108*f*; P (10) 239*j*.
Clinker. See *Cement; Dolomite; Forsterite.*
Coal. See also *Ash; Coke; Fuels.*
choice and grading, importance in ash rings in rotary cement kilns, (3) 52*i*.
spectrochemical determination of minor and trace elements in, (3) 69*b*.
structure, X-ray diffraction studies, (10) 240*e*.
studies of, (2) 44*b*.
washery tailings, use in manufacture of brick, (9) 210*e*.
X-ray studies of, (5) 120*d*.
Coatings. See also *Enamels; Glazes; Resins.*
abrasion-resistant metal oxide, for spray wheel, P (10) 241*c*.
alkali-silicate, for roofing granules, P (1) 11*h*.
alumina, flame-sprayed, for radomes, (1) 7*j*.
Sb, for glass, P (11) 254*h*.
application. See also *Electrostatic processes.*
application, apparatus for dipping, P (10) 230*d*.
for artificially colored granules, P (7) 159*j*.

Coatings (*continued*)
with beneficiated iron oxide pigment, P (5) 121*h*.
carbonyl nickel powder, for jet engine parts, P (10) 235*d*.
ceramic, adherence to stainless steel, factors affecting, (2) 30*b*.
flame spraying of, (9) 205*j*.
for magnet wire, tabulated data for, (4) 83*j*.
for metal golf club head, P (3) 55*g*.
predicted uses for, (6) 133*h*.
resistance to heat and corrosion, (2) 30*a*.
ceramic-metal, for glass sheet, P (3) 66*e*.
cermet, composition and application, P (2) 30*e*.
Cr, for dies and nozzles, (4) 95*b*.
conducting, formation on inner surface of window of glass tube, P (4) 86*j*.
copper, process, P (4) 86*h*.
corrosion- and abrasion-resistant for metals, P (3) 55*h*.
cryptocrystalline metal oxide, in producing powders, P (1) 18*e*.
dielectric, for capacitor electrodes, P (3) 65*b*.
electrically conductive, P (1) 6*g*.
for glass rod or tube, P (3) 50*f*.
for glass windshields, P (11) 255*c*.
for transparent resistance heated panel, P (1) 6*j*.
electrically insulating, for metals, P (3) 66*a*.
electrical resistor metal, for refractory materials, P (3) 65*i*.
electroluminescent, P (5) 117*g*.
electrophoretic, on conductive surface, P (3) 55*i*.
electroplating apparatus for glass sheet, P (7) 158*e*.
electrostatic. See *Electrostatic processes.*
evaporation process, for glass lens, P (4) 86*f*.
flame, method and applications, (4) 83*j*.
flame sprayed, adherence, photomicrographs of, (9) 205*j*.
foamed insulating, for conductors, P (3) 66*a*.
for foundry mold, application, P (3) 62*j*.
glass, protective, for long metallic hollow article, P (7) 155*i*.
for steel, corrosion-resistant, (7) 155*g*.
for steel billets, P (4) 87*f*.
for glass fibers, P (3) 59*d*; P (4) 87*a*.
for glassware, apparatus for applying, P (7) 157*h*.
for glow discharge tube electrode, P (7) 155*f*.
gold and silver, in capacitors, P (1) 13*f*.
graphite, for finishing ceramic ware, P (10) 227*c*.
for graphite, of stable metal carbides and nitrides, P (4) 89*d*.
hard metallic, P (4) 99*c*.
hydraulic cement-polyurethane compositions for, P (2) 29*a*.
hydrophobic, from synthetic organic silicates, (8) 198*e*.
indium oxide, deposition by thermal evaporation, P (8) 187*e*.
insulating, on Al and Cu, formation by thermal oxidation using fluorine, (1) 3*g*.
kaolin and Al paint, in tempering internal and external glass surfaces to different degrees, (10) 229*a*.
for light bulbs, P (5) 111*f*.
light-diffusing, for lamp envelopes, P (2) 34*f,g*.
liquid, for glass fibers, P (5) 112*h*.
for low carbon steel at high temperatures, (8) 186*i*.
MgO, for cold cathode of vacuum lamp, P (7) 155*e*.
for integrating spheres, improved technique, (2) 31*c*.
method of forming, P (10) 227*a*.
metal, adhesion to glass, (10) 227*e*.
for ceramic body, P (7) 161*d*.
deposition on glass, I-VIII, (8) 187*i*.
for glass fibers, P (3) 59*f*; P (7) 159*a*.
for glass filaments, P (8) 190*c*; P (10) 230*d*.
heat resistant, for thermal element, P (2) 37*g*.
machine for applying to ceramic rods by thermal evaporation, P (2) 41*e*.
metallic carbide, for graphite, P (8) 192*g*.
metallizing, apparatus for, P (6) 136*c*.
for ceramics, P (1) 13*i*.
of ceramic bodies containing small holes, P (3) 66*e*.
ceramic composition, P (10) 235*c*.
of glass filaments, P (4) 86*b*.
handbook, B (6) 151*h*.
of high-Al_2O_3 ceramics, (7) 163*e*.
of nonconductive materials, P (5) 117*j*.
methyl compounds, for glass hydrophobization, (10) 228*f*.
oxide, application, P (3) 66*j*.
phosphor, with improved adherence, P (3) 59*g*.
plating method, P (5) 118*b*.
for preparation of layers of electroluminescent materials, P (9) 215*b*.
for producing scales, patterns, etc. in glass, P (7) 159*c*.
protective, apparatus for detecting flaws in, P (5) 119*c*.
for decorated glassware, P (3) 59*h*.
for ferrous metal surfaces, P (7) 155*h*.
for glass pots, (3) 61*c*.
refractory, for aircraft and missiles, Natl. Bur. Standards research on, (5) 129*i*.
for casting mold, P (7) 161*h*.
metal oxide, for glass fibers or flakes, P (3) 58*d*.
for protection of furnace liners during shutdown, P (4) 89*e*.
silver, for glass filaments, P (2) 34*b*.
silver, method of depositing, P (7) 164*a*.
solid lubricant, with vitreous enamel binders, P (3) 56*a*.
for steel plate, for prevention of alligator scale formation, P (10) 227*c*.

Coatings (*continued*)
sulfide glass, direct deposition by evaporation, (4) 92*e*.
thermoplastic polyvinyl resinous, for corrosion protection of enameled metals, P (9) 205*g*.
thickness gauge, P (5) 119*e*.
thin, $BaTiO_3$, method of forming, P (6) 143*a*.
deposition of molecular layers, P (8) 202*c*.
problems, B (6) 150*d*.
of refractory dielectric materials, P (8) 195*d*.
X-ray measurement of thickness, P (7) 166*c*.
tin oxide on glass, surface resistivity of, P (10) 231*b*.
Ti oxide, for electrode for electron tube, P (7) 155*e*.
transparent, for optical element, P (2) 34*g*.
UO_2, visible and ultraviolet absorption properties, (6) 149*c*.
vaporization process, alloy for, P (3) 59*h*.
vaporizing process, heating element and holder for, P (3) 62*e*.
vitreous, material properties, B (1) 23*f*.
water-soluble fluorescent dye, for hydrophobic silica, P (9) 218*h*.
Zr phosphate, for phosphor particles, P (5) 117*d*.
Cobalt, catalysts. See *Catalysts.*
in cemented carbides, EDTA titration, (10) 244*a*.
compounds, slightly soluble, isotope exchange reactions, (7) 177*g*.
ferrite, neutron diffraction study of heat-treatment in, (11) 263*f*.
single crystal cores of, P (3) 66*b*.
uniaxial anisotropy in, (6) 142*h*.
films, deposition on glass, (8) 187*j*.
ions, effect on color of inorganic compounds, (8) 194*h*.
materials, exchange anisotropy in, (4) 92*d*.
molybdate, catalysts. See *Catalysts.*
Ni-, polycrystalline ferrites, resonance widths in, (11) 263*j*.
oxide, for black glazes, (7) 153*i*.
effect on cubic-hexagonal transition point of $BaTiO_3$, (7) 171*f*.
glazes, (3) 63*d*.
single crystals, magnetic susceptibility, (2) 40*a*.
as substitution in titanium spinel pigments, (4) 84*c*.
systems. See *Systems.*
telluride, ferromagnetism of, (7) 163*i*.
Cobaltites, Sr-rich, magnetic properties of, (3) 65*b*.
Coffinite, synthetic, X-ray study, (3) 79*c*.
Coke. See *Coal; Fuels.*
Coking, shapes, semiacid, production by semidry pressing on friction presses, (6) 139*i*.
Colemanite, ferroelectric properties of, (5) 116*e*.
Colloids. See also *Silica, gels.*
gels, alumina, with large specific surface, (1) 21*j*.
alumina, preparation, P (1) 18*j*.
Al_2O_3-SiO_2, formation of mullite in, (11) 270*g*.
alumina and silica, in study of moisture expansion, (8) 199*j*.
inorganic oxide, attrition-resistant, P (1) 17*g*.
hydrogels, chromia-copper, P (5) 121*g*.
organosols, silica, P (6) 147*b*.
sols, alumina, P (8) 199*d*.
sols, silica, preparation, P (1) 19*d*.
theory of, application to clay minerals, (11) 272*d*.
Color, architectural, oxides in production of, (5) 108*i*.
in brick clays, possible methods of changing, (10) 231*g*.
of building brick and tile, method of changing, P (3) 60*b*.
centers, in alkali silicate glasses containing alkaline earth ions, (3) 56*d*.
centers, neutron specific, in fused silica, (4) 85*e*.
ceramic, compositions, (1) 10*e*.
ceramic, review of, (6) 140*j*.
chrome alumina pink ceramic, compositions, (1) 10*h*.
of cobalt compounds, relation to constitution, (8) 194*h*.
control, in clay products, B (1) 25*j*.
copper-red, in frit glaze, I-VI, (9) 212*g*.
discrimination data, for small fields, (4) 84*a*.
in enamel, (3) 52*c*.
in glass, development of, (10) 227*h*.
effect of sulfides, (5) 109*h*.
γ-ray induced, kinetics of, (9) 207*g*.
on glass, (9) 205*d*.
harmony selection assembly, P (11) 250*f*.
identification of object according to, P (8) 197*c*.
indices, for near-white samples, (4) 83*i*.
of inorganic compounds, (6) 147*i*.
liquid, use in pottery underglaze, (2) 38*f*.
making, for decoration of ceramics, (11) 250*d*.
measurement. See *Colorimetry.*
from mixtures of pigments at different lightnesses, (11) 268*f*.
overglaze, resistance to acid, alkali, and washing agents, (6) 140*j*.
in pigments, mixtures required to produce, (4) 83*h*.
pottery, making grays and blacks, (7) 153*i*.
recipe book for, B (7) 183*j*.
recipes, of 18th century at Faenza, (3) 52*b*.
of signal red glass, factors affecting, (5) 109*g*.
small differences in, calculation, (6) 147*g*.
of soda-lime-silica glass, effect of iron compounds, (11) 253*f*.
stability, effect of self-opacified titania glazes on, (8) 193*h*.
uniformity, of enamels, effect of mill additions, (8) 187*e*.
uniform scale for sugar products, (5) 110*b*.
use and problems, III, (1) 7*d*.
vanadium, experiments on, (2) 38*a*.
yellow, effect of conditions of crystallization, (5) 128*a*.

Colorimeters, P (4) 96*j*.
photoelectric, for precision detection of small color differences, (6) 147*g*.
Colorimetry, for analysis of refractory materials, sample preparation, (2) 36*d*.
data, mechanized conversion to Munsell renotations, (11) 266*g*.
in determination of B in enamel frits, (4) 83*h*.
photoelectric, in measurement of color of near-white samples, (4) 83*i*.
spectrophoto-, in test for Fe in silicates, (5) 127*i*.
Coloring materials. See *Decoration; Pigments; Stains*.
Columbium. See *Niobium*.
Combustion. See also *Burners; Firing; Flames; Furnaces; Heat; Kilns*.
apparatus for simulation of, P (8) 197*i*.
control apparatus, and proportioning device for fuel and air, P (8) 198*a*.
of fuel oil, application to oil firing, (9) 217*a*.
gas, continuous analysis as control factor, (5) 120*c*.
gas, new concept in, Pyrocore reactor, (7) 160*s*.
heating, basic principles, (9) 217*b*.
within moving gas mixture, (2) 43*i*.
Comminution. See *Crushing and grinding*.
Compaction, continuous, of metal or ceramic powders, (6) 143*i*.
of granular materials, P (4) 95*j*.
Compensators, mica, rotating, for detecting zoning in minerals, (7) 171*h*.
Computers, electronic, for processing weathering data on enamel, (2) 30*c*.
Concentration, of aqueous silica sols, P (8) 199*f*.
of sea water for recovery of elements, P (8) 193*a*.
Concentrators. See also *Separators*.
multicone, for ores, P (11) 269*a*.
ore, P (8) 198*c*.
for raw mineral materials, P (1) 18*c*.
Concrete. See also *Cement; Masonry; Mortar; Pozzolans*.
air-entrained, made with Portland blast-furnace slag cement, freezing and thawing resistance, (2) 28*f*.
air-entrained, for pavement, fly ash in, (2) 28*e*.
air permeability, (2) 28*d,e*.
air void system in, I-IV, (1) 2*j*.
alkali-aggregate reaction in, I–III, (4) 82*h*.
alkali metal salt of monoorgano siliconate in, P (1) 3*c*.
ASTM Standards, B (2) 49*d*.
block, comparison of cost with clay block, (11) 257*a*.
chemical reactions of aggregates in, (4) 82*j*.
corrosion of reinforcing steel in, effect of marine atmosphere (9) 204*b*.
cracking, effect of aggregate and MgO and alkali content, (3) 53*d*.
curing materials, reflection tests for, (11) 251*i*.
curing with steam at atmospheric pressure, (5) 106*j*.
for curtain walls, B (4) 103*d*.
effect of mixing and exposure at 40°C. on workability and strength, (5) 106*j*.
evaluation by cone penetrometer, (11) 251*a*.
expansion, excessive, mineral admixtures for prevention of, (3) 53*a*.
fire, building elements, in East Germany, (6) 132*e*.
foamed, treatment with CO_2 for insulating units, (5) 107*e*.
fracture, statistical analysis, I, (5) 107*b*.
glass-, heating panels, (10) 228*b*.
high-density, made with hydrous-iron aggregates, (3) 53*j*.
irradiated, compositions, P (5) 107*j*.
lightweight, production of building bodies of, P (11) 252*a*.
reinforced, P (11) 251*j*.
of slag and fly ash, (3) 54*b*.
steam-cured, with low shrinkage, P (1) 3*d*.
low-density, in-place strength test for, (3) 54*d*.
nuclear shielding, properties of, (3) 54*d*.
Portland cement, effect of pozzolanic fly ash on permanency, (5) 107*a*.
with pozzolan, factors affecting sulfate resistance, (11) 251*e*.
in prefabricated structure elements, (5) 113*a*.
production of forsterite clinker for, (6) 139*d*.
refractory. See *Refractories*.
for road construction, field and laboratory study, (2) 28*j*.
setting time, decreasing by addition of finely ground hardened cement, (6) 133*e*.
shrinkage and cracking, (5) 107*h*.
stability, effect of trass on, (7) 154*b*.
steam-treated, effect of clinker minerals of Portland cement on properties of, (3) 53*f*.
strength, effect of properties of coarse aggregates, (3) 53*h*.
effect of variation of cement strength on, (9) 204*i*.
7 and 28 day, accelerated test, (10) 225*h*.
sulfate attack, in Oslo region, (9) 204*c*.
surface-active agents in, (2) 28*j*.
vibration, factors affecting results, (5) 107*f*.
Condensation, in brick kilns, causes of, (5) 112*i*.
energies, for metals on glass and other substrates, (7) 170*j*.
Conductivity, electrical, *C*-axis, of graphite, (2) 46*d*.
d.-c., of vitreous silica, relation to impurity content, (2) 31*g*.
electron-bombardment-induced, in MgO, temperature dependence of, (4) 92*h*.
of feldspar bonds for abrasive wheels, (3) 51*j*.
as function of temperature in Na aluminosilicate glasses, (2) 31*e*.
of graphite, dependence on temperature, type, neutron irradiation, and bromination, (4) 101*e*.
Conductivity, electrical (*continued*)
of high V-phosphoric acid glass, effects of V in lower valence state, (11) 253*h*.
ionic, of tantalum oxide at very high fields, (2) 46*i*.
of MgO-Cr_2O_3, change during spinel formation, (5) 123*j*.
in molten alkali silicates, (9) 206*c*.
of molten slags containing TiO_2, (5) 113*e*.
of natural graphite crystals, radiation damage to, (2) 47*j*.
of sodium silicate-ferric chloride solutions, (5) 123*e*.
of system asbestos–cement–water, (2) 28*i*.
of VO_2 and VO_2-TiO_2 solid solutions, (5) 125*d*.
of welding slag, (5) 113*g*.
Conductivity, thermal, of beryllia, (2) 48*d*.
of ceramic and metallic materials, apparatus for measuring to 1200°C., (3) 68*d*.
of clear fused silica at high temperatures, (9) 221*b*.
of fused and crystalline quartz, (9) 221*j*.
of glass, effect of composition, (11) 254*i*.
of glasses and graphites, (8) 188*f*.
of graphite, dependence on temperature, type, neutron irradiation, and bromination, (4) 101*e*.
of heat insulating materials, (4) 89*b*.
of heat insulating mica brick, effect of pore size, (4) 88*e*.
of heat insulators, measurement of, (7) 174*j*.
of heterogeneous ceramic body under isothermal conditions, (6) 147*c*.
high-temperature, of metal oxides, (3) 75*h*.
hot wire for rapid determination, (5) 119*e*.
of insulating brick, relation to bulk density, (1) 8*e*.
low-temperature, of graphite, (4) 98*g*.
of magnesia from 1030° to 1880°C., (2) 48*f*.
of multicomponent systems, (1) 21*d*.
of poorly conducting materials by contact temperature method, (11) 270*e*.
of sintered refractories at high temperatures, instrument for measuring, (8) 196*j*.
of soils, cylindrical probe method of measurement, II, (7) 170*f*.
techniques and apparatus for measuring at very high temperatures, (11) 265*c*.
of vermiculite, (8) 198*j*.
Conductors, electrical. See also *Semiconductors*.
insulated, P (3) 66*a*.
for use at high temperatures, P (10) 234*j*.
Conferences, on atomic mechanisms of fracture, proceedings, B (6) 151*d*.
of British Society of Rheology, 1957, proceedings, B (6) 152*j*.
on clays and clay minerals, proceedings of sixth national (1957), B (9) 223*a*.
on high temperature materials, 1957, proceedings, B (9) 224*c*.
international, on reactivity of solids, 1956, proceedings, Vol. II, Sections II, III, B (10) 248*g*.
on kinetics of high-temperature processes, 1958, B (10) 246*i*.
of Society for Silicosis Research, report, (1) 22*b*.
Construction materials, ceramic, Canadian production, (6) 149*g*.
Contact angles, importance and measurement, (2) 42*h*.
measurements, of slags on solid surfaces, (2) 35*d*.
Containers. See *Glass*.
Contraction, tests, for refractory-slag reactions, (6) 139*i*.
Controls. See also *Instrumentation; Temperature*.
automatic, for material distribution, P (6) 144*e*.
automatic, of oil burning for ceramics, I, II, (2) 43*d*; III, (4) 97*e*; IV, (5) 120*a*.
consistency meter, for castable refractory properties, (10) 232*d*.
by continuous combustion gas analysis, (5) 120*c*.
device, for ladle flow, P (6) 140*d*.
for feeding apparatus. See *Feeding apparatus*.
in firing clay ware, B (1) 25*j*.
of flame characteristics by Wobbe index value, (6) 145*b*.
for furnace atmosphere, P (6) 145*d*.
pressure, for oil furnace, (4) 97*e*.
process, interpretation of thermal expansion data in, (7) 165*i*.
Pfefferkorn method of mixing water determination as, (3) 67*c*.
in pozzolan production, (11) 250*j*.
statistical methods for, (7) 164*i*.
for sandblasting equipment, P (10) 226*j*.
structural, of polymorphism in micas, (8) 201*h*.
thermogravimetric, of uranium compounds, (7) 181*e*.
for whiteware plant process, (10) 236*i*.
Conveyers. See also *Materials handling*.
for assembling, preheating, and transferring bulbs, P (10) 230*c*.
belt, automatic self-centering pulleys for, P (5) 118*e*.
belt, for conveying bulk materials vertically and horizontally without transfer points, (10) 239*b*.
chain distributing, for rotary excavator, (1) 17*d*.
compressed air, for powders, P (7) 165*c*.
for discharging pulverulent material, P (4) 99*i*.
endless belt trough, P (9) 216*b*.
for glass windshields, (7) 156*c*.
helical, vibratory, P (7) 165*a*.
idler stand, P (7) 165*d*.
for lamp bulbs, P (5) 112*c*.
pneumatic, P (5) 118*j*.
for powdered cement, P (11) 251*g*.
rollers, for troughed belt, P (10) 239*j*.
screw, for use in furnace, P (11) 265*g*.
system, and stacking unit for brick, P (10) 231*f*.
for transporting rows of articles to single row of articles, P (6) 136*b*.
trough, drive assembly for, P (7) 165*e*.
Conveyers (*continued*)
troughed, apron belt, P (6) 144*e*.
vibrating, P (9) 216*d*; P (10) 239*j*.
for bulk material, P (9) 216*e*.
sand seals, for pusher type furnaces, P (5) 120*g*.
Coolers, for cement clinkers, P (2) 90*b*.
for finely divided materials, P (4) 97*g*.
for particles, P (1) 16*a*.
Cooling, agent, for refractory lining of rotary furnace, P (3) 62*a*.
of hot kiln gases, P (4) 97*g*.
of hot materials by gas, P (3) 69*h*.
system, for glassforming molds, P (7) 158*g*.
Copper, coating, process, P (4) 86*h*.
as color in ruby red glass, P (7) 158*g*.
compounds, effect on setting of Portland cement and plaster of Paris, (2) 28*g*.
in container for molten glass, P (1) 6*d*.
ferrites, crystallographic and magnetic properties, (1) 13*c*.
formation of insulating coatings on by thermal oxidation using fluorine, (1) 3*g*.
oxide, chromia oxide-, hydrogels, P (5) 121*g*.
oxide, paste, for screen printing and firing Cu on ceramic bases, (11) 263*i*.
in paste for printing circuits directly on ceramics, (6) 142*d*.
-plated metals, buffing compounds for, (3) 51*h*.
production, refractories for, (5) 113*i*.
-red, color, in frit glaze, I-VI, (9) 212*g*.
in red glazes, (1) 10*j*.
single crystals, immersed in aqueous Cu sulfate, study of cuprous oxide formed, (9) 219*f*.
Cordierite, formation, temperature of, (8) 192*e*.
in high frequency insulator body, (4) 90*h*.
Cores, casting, siliceous, P (11) 261*e*.
ferromagnetic, with square hysteresis loop, P (7) 164*d*.
inductor, single crystal, of magnetizable garnet, P (9) 215*a*.
inorganic bonded, for steel castings, P (8) 192*f*.
magnet, miniature, testing and sorting device, P (6) 143*e*.
magnet with rectangular hysteresis loop, P (3) 66*d*.
seal, proper use in deairing, (11) 265*a*.
single crystal ferrite, P (3) 66*b*.
Corrosion, of borosilicate glass, effect of water content, (8) 188*c*.
ceramic coatings resistant to, (2) 30*a*.
of glass surfaces by animal tissues, (10) 227*f*.
of iron, in $Ca(OH)_2$ solution and in cement mortar, (11) 250*i*.
metallic, prevention by use of enamel, (6) 133*i*.
metallic, at steel-cement contacts, factors affecting, (3) 54*a*.
in power plants, enameled steel for protection against, (9) 205*f*.
prevention, coatings for, P (9) 205*g*.
prevention, in fuel oil burners, (9) 217*a*.
refractory, controlling mechanism in, (3) 61*f*.
of reinforcing steel, in concrete in marine atmosphere, (9) 204*b*.
of reinforcing steel, relation to neutralization of blended cement mortar, (11) 251*c*.
resistance, of enamels, (2) 30*f*.
-resistant coated metals, P (3) 55*h*.
-resistant probe, constant temperature, (2) 42*g*.
-resistant products, for military use, plant layout and equipment for, (5) 108*f*.
of semiconducting glazes, (6) 141*b*.
Corundum. See also *Alumina; Refractories*.
alkalis in, determination by flame spectrometry, (2) 42*g*.
body, effect of comminution of alumina on sintering of, (7) 162*d*.
electrofused, for polishing glass, effect of particle size, (4) 81*f*.
mikrolit, new developments in synthesis, (9) 217*j*.
mullite-, boundary, in systems MgO–Al_2O_3–SiO_2 and CaO–Al_2O_3–SiO_2, (1) 20*h*.
polycrystalline and single crystal, strength of, (7) 179*c*.
rate of densification of compacted sample, (7) 178*c*.
surface structure, I, (10) 245*i*.
synthetic single-crystal, elastic constants at room temperature, (7) 172*g*.
V-colored, absorption spectra at low temperatures, (10) 243*b*.
Cost, advantages, in palletised shipments, (6) 133*h*.
of cement making, reduction through industrial engineering, (6) 133*a*.
of concrete block, comparison with clay block, (11) 257*e*.
in foam glass production, effect of use of foam glass wastes, (6) 134*i*.
maintenance, in firebrick industry, control of, (11) 258*h*.
reduction, in enameling, effect of automation, (6) 133*i*.
reduction, in production of ceramics, (9) 222*e*.
system, on monthly and yearly basis for brick company, (9) 210*c*.
Covalence. See *Valency*.
Cracking, of cement, relation to aggregate and MgO and alkali content, (3) 53*d*.
Crazing. See also *Glazes*.
delayed, of Indian tile, (1) 10*f*.
effect of glaze-body layer on, (1) 10*g*.
Creep, of Al_2O_3 single crystals, (10) 243*a*.
of ceramic materials, (7) 178*j*.
of mortar, role of cement in, (3) 54*e*.
recovery, of mortars with different cements, (4) 82*g*.
of refractory materials, (1) 8*b*.
of silica refractories, (4) 88*g*.

Creep (*continued*)
torsional and tensile, of basic refractories, (4) 88*g*.
Cristobalite. See also *Silica*.
as oxidation product of SiC, (1) 20*a*.
quartz-, transformation, II, (1) 20*i*.
quartz-, transformation in silica brick, (1) 9*c*.
in used silica brick, X-ray studies, (11) 259*a*.
Critical single-domain size, comparison for Fe_2O_3 and γ-Fe_2O_3, (10) 237*e*.
Crucibles. See *Refractories*.
Crushing and grinding. See also *Crushing and grinding apparatus; Mills*.
of alumina, effect on sintering of corundum bodies, (7) 162*d*.
of alumina, reduction of time in ball mills, (2) 41*f*.
autogenous, methods and applications, (4) 95*a*.
automation of, in brick industry, (4) 88*a*.
with ball mills, I, (4) 95*e*.
dry, effect on kaolin minerals, B (9) 223*d*.
effect on kaolinite, thermogravimetric analysis, (7) 176*d*.
effect of moisture of raw materials on constants of, (3) 67*f*.
of enamels, fineness determination, (3) 55*h*.
fine, behavior of calcined alumina during, (7) 177*g*.
fine, for improving clay brightness, P (6) 146*j*.
fineness, effect on properties of ramming mixes, (9) 211*i*.
of graphite, kaolin, and $Mg(OH)_2$, (9) 215*h*.
history of, B (5) 130*e*.
of pigments, factors affecting, (9) 215*g*.
of Portland cement clinker, effect of temperature, (5) 107*c*.
principles of and equipment for, for ceramic materials, (2) 41*d*.
problems, "work index" of, (6) 132*j*.
resistance, of glass receiving-tube envelopes in gas pressure chamber, (4) 84*h*.
rotating drum-type mill, with classifying system, P (6) 146*i*.
studies, on Portland cement, (10) 226*a*.
ultrafine, with Sweco mill, (6) 144*c*.
vibration, of grog for improving quality of high grog refractories, (3) 62*a*.
of glass-ceramic raw materials, wear resistance of nonmetallic grinding balls in, (6) 144*d*.
of sand, for borosilicate glass, (6) 135*f*.
wet, of $BaTiO_3$, effect of contamination introduced on electrical properties, (1) 12*e*.
wet, of rutile pigment, P (8) 198*i*.
Crushing and grinding apparatus, P (2) 45*i*. See also *Mills*.
for comminution of materials, P (11) 266*a*.
for comminution of ores, P (11) 269*d*.
cone crusher, P (2) 45*e*.
cone crusher, gyratory, mantles for, P (4) 99*g*.
construction, P (10) 241*j*.
for crude gypsum, (5) 107*d*.
dry pan, effect of pan speed and feeding arrangements on output, (9) 215*f*.
dry pan, small-sample technique for investigating operation of, (3) 67*d*.
for fine crushing, P (8) 198*c*.
grinding balls, nonmetallic, wear resistance in vibrogrinding glass-ceramic raw materials, (6) 144*d*.
gyratory, P (3) 71*h*.
feeding means for, P (5) 121*i*.
shaft seals, P (5) 122*h*.
with upper inlet opening, P (8) 198*f*.
hopper, for feeding ground material, P (4) 95*h*.
horizontal ball crusher, P (9) 216*c*.
impact machine, for rock, stone, gravel, P (1) 18*b*.
for integrated dry materials, P (11) 265*g*.
jet pulverizer, P (8) 196*e*.
micronizer, cyclone, small all-glass, (3) 68*g*.
precision grinder, with forced circulation classifier, P (8) 199*d*.
preventive maintenance, I, II, (6) 146*c*.
pulverizers, centrifugal, P (5) 121*h*; P (5) 122*d*.
and classifier, P (10) 239*j*.
ring and roller, P (11) 269*i*.
vertical machine, P (6) 147*b*.
rock crusher, jaw, P (8) 199*g*.
for rocks, P (10) 242*f*.
rollers, automatic welding fixture for, P (4) 99*c*.
rotary drum, with plural separator circuit, P (8) 199*g*.
stone-breaking, P (6) 147*b*.
swing-jaw, P (1) 19*g*.
tightening device for mantles and liners in, P (5) 122*i*.
triple roll, P (3) 72*f*.
two stage reversible, P (5) 122*j*.
Cryolite, artificial, process, P (4) 99*b*.
manufacture, P (7) 168*d*.
recovery from waste gases, P (8) 199*b*.
systems. See *Systems*.
Crystal chemistry, of carbides, silicides, and borides, high melting, (11) 270*d*.
of 1:1 layer lattice silicates, (3) 76*h*.
of pegmatite phosphates, (3) 76*j*.
of scawtite, (3) 73*d*.
Crystallinity, of silica gel, revealed in heat capacity curve, (5) 124*a*.
Crystallization, ability, of silicate glasses, (9) 206*d*.
of amorphous silica, (3) 77*h*.
of enamels, (10) 226*i*.
epitaxial growth in fluorides, (10) 244*f*.
of glass. See *Glass*.
methods, for quartz, (7) 177*e*.
of mullite in ternary alumina–silica systems, (5) 127*j*.
phenomena, of fluoride glasses, (5) 111*j*.
process, effect of additives on calcium sulfate, I, (7) 172*i*.
Crystallization (*continued*)
re-, of alumina after nucleation at high supersaturations, (8) 201*g*.
relation to hardness, (7) 169*f*.
of salol, as illustration of growth of crystals from molten state, B (10) 246*h*.
of silica, on polished glass surfaces, (7) 156*d*.
in system α-alumina–silica, I, (7) 178*i*.
Crystallography, as evidence for existence of B_2O, (7) 170*c*.
geometric and physicochemical, B (4) 103*j*.
properties, of square-loop materials in ferrite systems containing copper, (1) 13*c*.
X-ray, mathematical tables for, B (6) 151*g*.
Crystals. See also specific kinds.
absorption bands of Cr^{3+} ions in, (6) 134*d*.
Barker Index, of monoclinic system, B (1) 22*h*.
ceramic and ionic, bending, (5) 116*b*.
copper, formation of oxide on, (9) 219*f*.
directional breakdown effects in, B (11) 274*c*.
dislocations, in germanium, (6) 142*d*.
in MgO, produced by electric field, (10) 244*f*.
study by X-ray diffraction microradiography, (9) 221*b*.
distortion, covalent bonds as cause of in spinels, (3) 78*b*.
formation. See also *Crystallization*.
formation and precipitation, in glass, (5) 111*j*.
forms, of thermally decomposed Al hydroxide, effect of starting materials, I, II, (7) 173*f*.
fragments, spindle stage for determination of principal indices of refraction, (7) 181*j*.
growing, apparatus for, P (3) 79*f*; P (7) 182*a*.
growth, acceleration of, P (8) 202*b*.
and atomic arrangements, B (10) 246*h*.
linear, in supercooled melts, theory of, (10) 245*e*.
and perfection, B (1) 23*b*.
visualizing in melts, (5) 129*a*.
ionic, brittle-ductile transition temperatures in, (7) 169*j*.
lattice defects, in alumina ceramics, study by thermoluminescence and reflectance methods, (10) 243*f*.
effects and properties, (7) 180*d*.
long wave length neutron transmission as absolute method for determining concentration of, (10) 244*g*.
preceding oriented transformations during heat-treatment of kaolinite, (8) 200*d*.
lattices, in powder metallurgy products, (7) 160*c*.
mono-. See *Crystals, single*.
orientation device, P (11) 267*a*.
oven, P (8) 194*j*.
physics, progress in, B (11) 274*j*.
plasticity, transformations, and precipitations, B (8) 202*d*.
porous, as molecular filters, (7) 176*a*.
quartz. See *Quartz*.
relation of absorption and pleochroism, (3) 72*g*.
semiconductor, growing of, B (5) 130*b*.
single, densities and imperfections, (3) 73*g*.
growth of, P (1) 21*g*.
large, precision density determination by hydrostatic weighing, (3) 77*c*.
rod-shaped, correction for absorption, (3) 73*b*.
X-ray identification of oriented intergrowths of minor components in, (6) 148*d*.
structure, B (4) 103*i*.
of Ba compounds, determination, (7) 174*h*.
of β-wollastonite, (4) 100*i*.
of betekhtinite, (7) 170*d*.
of carbons, (3) 78*f*.
changes during melting, (7) 157*g*.
of foshagite, (8) 200*b*.
of graphite and soot, (2) 36*e*.
of Mg-vermiculite of 14.36 a.u. phase, (3) 76*c*.
of pegmatite phosphates, (3) 76*j*.
of quartz, relation to impurities and color centers, (3) 77*a*.
refinement, of triclinic $Mg_2B_2O_5$, (4) 101*d*.
of sanbornite, (3) 73*f*.
of stannous selenides, (6) 142*b*.
of ternary fluorides and oxides, theoretical principals, (5) 128*c*.
vector space in study of, B (6) 152*g*.
of zunyite, (9) 219*j*.
twinning, factors affecting in $BaTiO_3$, (1) 20*i*.
twinning, in plagioclase feldspars, factors affecting, (3) 74*g*.
Cullet, in high-alkali porcelain body, (2) 38*g*.
Cupferron, in determination of Ti, (7) 171*c*.
Curing, high-temperature, of concrete, (5) 106*j*.
Cuspidine, synthesis, hydrothermal, (3) 78*h*.
Cutting tools. See *Tools*.
Cyclones. See *Classifiers; Separators*.

Damping, mechanical, of glasses, effect of electron bombardment, (9) 206*a*.
Data Book, ceramic, 1959–1960, B (5) 129*j*.
on physical and engineering properties of materials for nuclear fuel elements, B (5) 129*i*.
Desairing, of bags during filling, P (6) 146*a*.
plant operator's manual, I-V, (11) 264*j*.
Decomposition, conditions, of gypsum, relation to crystal form, (3) 52*h*.
double. See *Double decomposition*.
isothermal, of clay minerals, (7) 174*b*.
of potash feldspar, (8) 200*c*.
products, of muscovite, (11) 270*f*.
reactions, correlation of TGA and DTA temperatures in, (2) 46*e*.
thermal, of Al_4C_3 in production of graphite single crystals, (3) 77*d*.
of Ca oxalate and Ca carbonate, study by use of high-precision thermobalance, (5) 125*b*.
of carbonaceous materials, graphitizing residues, P (11) 260*j*.
Decomposition, thermal (*continued*)
of clays, effect of sample size and dilution on kinetics of, (11) 270*j*.
of gas, carbon deposits from, (3) 69*a*.
of intermediate compounds in metallurgy of uranium, (7) 181*e*.
of montmorillonite, effect of exchangeable cations on, (7) 175*b*.
Decoration. See also *Art and artware; Color; Engobes; Glazes*.
apparatus for silk screen process, P (3) 59*e*.
bright and mat-surfaced, on ceramic glazes, use of Pt for, (8) 194*b*.
with ceramic colors, (6) 140*j*.
of ceramics, by reproduction of photographs, P (11) 262*b*.
of ceramic ware, color making for, (11) 250*d*.
with enamels, (10) 226*g*.
with enamels, improvement, (1) 3*j*.
forming raised metallic design on vitreous surface, P (6) 136*f*.
of glass articles, apparatus for, P (7) 157*i*.
of hard porcelain, history of, (3) 52*f*.
kerbschlieren, new modeling technique, (11) 250*f*.
machine, multiple station, for dishware, P (11) 262*b*.
media, organic compounds for, (3) 71*a*.
opaque reticle design on lead glass, P (6) 136*i*.
by photoceramics, (1) 5*i*.
photographic, for ceramic ware, (2) 37*j*.
of porcelain, with Al films, (9) 213*b*.
of pottery, flatware, Murray printing process, (9) 213*a*.
with plurality of colors, P (10) 236*e*.
printing methods in, (3) 63*f*.
of round surfaces, machine for, P (6) 136*h*.
screen-printed transfers, improvements in, (9) 213*f*.
silk screen, adjustable, P (4) 95*h*.
of tableware, mechanical aids, (9) 213*f*.
De-enameling. See *Enameling*.
Deflocculants. See *Electrolytes*.
Deflocculation, of clays, role of anions in, (11) 271*c*.
Deformation, firing, determination by pyroplastic index, (1) 11*d*.
of matter, in introduction to rheology, B (11) 273*g*.
mechanical, of ceramic products at high temperatures, (5) 125*i*.
recovery, of kaolinite-illite clay, factors affecting, (7) 176*h*.
of ware prior to and during drying, (5) 118*f*.
Degasification, vacuum, of materials at ambient temperature, (11) 273*a*.
Dehumidifiers. See *Driers*.
Dehydration, of alumina trihydrate, (7) 170*i*.
of gibbsite, (7) 171*a*.
of gypsum, and formation of $CaSO_4 \cdot {}^1/_2H_2O$, (11) 250*j*.
of hydrargillite, thermochemical study by dynamic differential calorimetry, (5) 128*i*.
of kaolinite, effect of adsorbed univalent cations, (7) 172*j*.
of slurries, for manufacture of refractory crucibles with gypsum plaster molds, (10) 232*h*.
thermal, of clays, kinetics of, I–IV, (7) 174*a*.
thermal, of kaolinite, kinetics of, (4) 101*d*.
Dehydroxylation. See *Decomposition, thermal*.
Densification, during sintering in presence of liquid phase, I, II, (7) 171*c*.
rate, of compacted corundum, methods of measuring, (7) 178*c*.
Density, of aqueous kaolinite suspensions, (5) 129*f*.
of bonding electrons in diamond, (8) 200*e*.
bulk, of insulating brick, relation to thermal conductivity, (1) 8*e*.
bulk, methods for determining, (2) 42*j*.
of ceramics and cermets at room temperature, (8) 201*i*.
changes, in borosilicate glasses from heating, (4) 84*j*.
changes, as index of amount of ZrO_2 transformed from monoclinic to tetragonal phase, (7) 180*c*.
distribution, in sediments, (7) 171*e*.
of glass, apparatus for testing, (3) 56*c*.
of glasses and graphites, (8) 188*f*.
of liquids, effect on sedimentation volume of powders, (5) 124*j*.
of liquids, suspended plummet method for measurement, (7) 180*b*.
measurements, on molten glasses in system CaO–Al_2O_3–SiO_2, (2) 32*e*.
of melts, in system Na metaphosphate–K metaphosphate, (6) 135*a*.
optical, as function of radiation dose in evaluation of dosimeter glasses, (9) 207*f*.
optical, of sheet materials, apparatus for determining, P (3) 79*e*.
precision determination, in large single crystals by hydrostatic weighing, (3) 77*c*.
-pressure-temperature, relations in UO_2, (4) 88*d*.
of refractories, unfired and grog semidry pressed, effect of moisture content and forming pressure, (9) 210*j*.
Dental materials, cement, from metal oxides and chelating agents, P (9) 205*a*.
composition, P (9) 213*e*.
stone or plaster, P (10) 226*c*.
Depreciation, and percentage depletion, I–III, (6) 149*h*.
Design. See also *Art and artware; Decoration*.
department, at Alfred, program, (1) 1*j*.
dinnerware, discussion of, (4) 82*b*.
diploma in, from School of Art, England, (4) 82*a*.
engineering, elements of for ceramic industry, (2) 49*a*.
factorial, of experiments in ceramics, II, (7) 182*c*.
of fine china, (8) 185*h*.
of lavatory basin, asymmetric, of vitreous china, (4) 82*a*.

Design (*continued*)
philosophy and, pertinent questions, (5) 106*a*.
of plumbing fixtures at Crane plant, (8) 185*i*.
pottery, analysis of present state, (1) 2*b*.
methods of, B (10) 246*g*.
traditional and modern, (7) 154*a*.
principles for whiteware, (11) 250*e*.
rules for creative use, (7) 154*a*.
Desulfurization, of gypsum, (6) 132*f*.
Detectors. See *Tubes, electron.*
Devitrification, of cast stones, P (9) 222*b*.
of glass, relation to thermal history, (9) 206*f*.
of glass, temperature dependence of growth processes in, (3) 57*b*.
of Graham's glass, (7) 156*g*.
Dewatering. See *Water, removal.*
Dextran, carboxymethyl, in low water loss cement slurries, P (2) 29*a*.
Diamonds, in abrasive wheels. See *Grinding and polishing apparatus.*
alleged formation of intermediate structure on heating, (8) 199*i*.
coloring process, P (11) 273*d*.
crystals, study of individual dislocations by microradiography, (9) 221*b*.
density of bonding electrons in, (8) 200*e*.
-edged band saw, P (7) 153*f*.
elastic constants of, (4) 101*a*.
faces, critical stress for production of pressure crack figures on, (9) 219*i*.
fragments, in cutting tool, P (1) 1*g*.
graphitization of, (8) 200*g*.
grinding wheel, cup-shaped, P (10) 225*f*.
industrial, (6) 146*b*.
intensity of (111) reflection, absolute measurement, (8) 199*k*.
natural and synthetic, distinction between, (4) 81*g*.
optical and electrical properties, (3) 77*i*.
optical and electrical properties, effects of pressure, (3) 74*a*.
polishing, P (8) 185*f*.
powders, man-made vs. natural, (3) 51*g*.
production, at 50,000 atm. pressure and 2500°C., P (11) 265*d*.
from graphite, apparatus for, P (11) 265*b,c*.
high temperature reaction vessel for, P (11) 266*e,a*.
two-stage high pressure apparatus for, P (11) 266*d*.
radiation damage in, (2) 47*k*.
synthesis, P (11) 249*g,h,i*; P (11) 250*a*.
synthetic, interferometric studies, (8) 200*h*.
type II, use in apparatus for study of infrared spectra of solids at high pressures, (7) 173*i*.
Diatomaceous earth. See *Kieselguhr.*
Diatomite. See *Kieselguhr.*
Dielectrics. See also *Ferrites; Ferroelectricity and ferroelectric materials; Ferromagnetism and ferromagnetic materials; Glass; Porcelain, electrical; Spark plug insulators; Steatite; Titanates; Whiteware.*
alkaline earth titanate, refractory nonreactive to, P (3) 62*d*.
amplifier elements, of system $BaTiO_3$–$PbSnO_3$, (10) 237*f*.
behavior, of bentonites and kaolins, (5) 124*k*.
body having high dielectric constant, P (9) 214*b*.
breakdown, of porous ceramics, (4) 92*b*.
ceramic, process for making, P (8) 195*g*.
constant, of ferroelectric ceramics at S-band frequencies, measurement, (7) 163*g*.
of oxifers as function of frequency, (1) 12*g*.
of $KNbO_3$ and $BaTiO_3$, (1) 12*a*.
of quartz and feldspar mixtures, immersion method of determination, (3) 63*b*.
in determination of water in liquids, emulsions, powders, and solids, (9) 219*a*.
devices, B (5) 130*k*.
gaseous, B (11) 274*d*.
heating apparatus, P (6) 143*c*.
impact resistant, P (8) 195*d*.
lead titanate, behavior at low temperature, (1) 12*d*.
loss, of bodies of chlorite, pyrophyllite, and sericite, (4) 92*c*.
loss, drying of ceramic products by, (5) 118*d*.
materials, $BaTiO_3$ ceramic, P (5) 117*c*.
ceramic, P (2) 40*b*.
development, (2) 39*f*.
nonlinear, (4) 91*j*.
mica containing, method of manufacture, P (1) 13*b*.
nonoxide ceramics, B (11) 274*d*.
powders, classification in electric fields, (2) 39*e*.
progress in, Vol. 1, B (11) 274*b*.
properties, of alumina at high temperatures, (6) 142*b*.
of $BaTiO_3$, effect of hydrostatic pressure, (7) 163*a*.
of Ba Zr metaniobate, (3) 64*i*.
of vitreous silica, effect of water content, (2) 31*g*.
refractory, making thin films of, P (8) 195*d*.
relaxation, in soda-silica and soda-lime-silica glasses, (2) 31*f*.
sintered body, composition, P (11) 263*e*.
solid solution, based on sodium niobate, (8) 194*k*.
temperature stabilized nonaging high dielectric ceramic, P (11) 264*b*.
titanates as, B (1) 23*i*.
Dies. See also *Extrusion.*
feeder, for sheet glass, P (1) 6*i*.
hard-chrome-plating of, (4) 95*b*.
high pressure, with simultaneous heating, P (10) 239*e*.
multicored, for cutting brick weight, (11) 257*f*.
multiple stage, P (11) 265*j*.
refractory, for extrusion of uranium, P (1) 10*b*.
set, latching means for, P (6) 144*b*.

Dies (*continued*)
tapered, in diamond production apparatus, P (11) 265*e,f*.
Differential thermal analysis. See *Thermal analysis.*
Diffraction. See *Electron diffraction; Light; Neutrons; X rays.*
Diffractometers, P (7) 166*a*. See also *Electron diffraction X rays.*
X-ray, geometry, alignment, and angular calibration, (5) 119*c*.
Diffusion, coefficients, of soil in place, apparatus for measuring, P (4) 96*j*.
as control mechanism in refractory corrosion, (3) 61*f*.
electron, in MgMn ferrites, (9) 214*d*.
of exchangeable cations in vermiculite, (8) 200*i*.
of Fe_2O_3, qualitative evaluation by ^{59}Fe, (5) 127*c*.
of oxygen in silicon, (10) 243*h*.
solid state, symposium on, B (4) 104*f*.
through liquid film between particles, in control of rate of densification during liquid-phase sintering, (7) 171*d*.
of Zn in ZnO, (9) 219*b*.
zone, of oxide systems, volume changes in, (9) 222*a*.
Diffusivity, thermal, of heat insulators, measurement of, (7) 174*j*.
Dilatometers. See also *Expansion.*
data, for lead compounds, I, (10) 243*j*.
measurements on glasses, evaluation of, (3) 57*j*.
in research and process control problems, (7) 165*i*.
Dinnerware. See also *Art and artware; Pottery; Whiteware.*
apparatus for making, P (8) 194*e*.
biscuit, cleaning with sand, (2) 41*c*.
cups, and cup handles, (4) 90*e*.
design for eliminating breakage in dishwashing machines, (4) 82*b*.
for permitting or preventing mixing of fluids, P (4) 82*c*.
decoration machine, multiple station, P (11) 262*b*.
designing of, (8) 185*h*.
equipment for making, P (1) 11*g*.
machines for decorating, (9) 213*f*.
manufacture, importance of inspection in quality control, (7) 162*h*.
molds, machine for charging, P (3) 64*d*.
plates and saucers, pressing from powdered materials, P (10) 236*f*.
porcelain, German functional styles, (3) 52*f*.
Russian industry, advances in, (5) 129*g*.
special shapes, drying of, (8) 193*g*.
translucent, breakage resistant, (7) 162*f*.
Diopside, synthesis of, (3) 63*d*.
Directories, British glass industry, B (5) 129*i*.
Ceramic Data Book, B (5) 129*j*.
of the ceramic industry 1959, European, B (6) 150*h*.
glass factory, B (5) 130*d,e*.
Pottery Gazette & Glass Trade Review, B (5) 130*a*.
Red Book, for china, glass, and tablewares, B (9) 223*a*.
Dislocations, in crystals. See *Crystals.*
Dispersions, apparatus for making, P (7) 165*a*.
aqueous, of high molecular weight fibrils of amorphous silicates, P (5) 121*f*.
characteristics, of montmorillonite, kaolinite, and illite clays in waters of varying quality, control with phosphate dispersants, (11) 268*c*.
coarse, settling velocity of solid grains in, (11) 271*d*.
colloidal, of clays, (5) 123*c*.
of slurry particles, method of increasing, P (5) 129*d*.
Displacements, in solid UO_2 rods, (6) 140*e*.
Dissociation, constant, of $CaOH^+$ from 0° to 40°C., (8) 200*i*.
electrolytic, of molten slags, use in determining basicity of melt, (2) 35*h*.
of solid SrO by impact of slow electrons, (9) 219*d*.
Dolomite. See also *Refractories.*
adhesion to sintered hearth of open-hearth furnace, effect of temperature and heating time, (1) 8*f*.
clinker, physicochemical processes during production, (6) 139*a*.
clinker, stabilized, (7) 154*i*.
for control of excess alkali in porcelain body, (2) 38*d*.
MgO and Ca nitrate from, P (4) 100*f*.
Russian deposit, (9) 218*e*.
-serpentine mixes, physicochemical processes during firing of, (6) 139*a*.
-sulfuric acid method, for manufacture of lightweight brick, (8) 191*i*.
X-ray data, (3) 79*f*.
Dosimeters, high-level γ-radiation, glasses for, (9) 207*f*.
radiation, glasses for, (9) 208*b*.
ultrasonic neutron, P (7) 182*a*.
Dosimetry, applications of radiation effects in glasses, (9) 206*b*.
Double decomposition, of Be chloride and Na silicate solutions, (5) 128*f*.
of Pu carrier La fluoride precipitate with alkali, P (9) 222*a*.
of Na silicate with chlorides of Fe and Cr, studies of gelation of products from, (5) 128*d*.
of sodium silicate and chlorides of Fe and Cr, gelation of silicic acid and products of, (5) 128*e*.
Driers. See also *Drying.*
for coated sheet stock, P (3) 69*b*.
conveyer-type, for wall tile, (2) 43*f*.
drum, electrofilters for purifying flue gases from, (3) 67*e*.
for filter cakes, P (9) 217*f*.
for finely divided solid materials, P (4) 95*c*.

Driers (*continued*)
for granular material, P (8) 196*c,g*.
for heavy products, use of rotary air mixer, (5) 120*d*.
humidity, for pipe and tile from tender clay, (2) 41*e*.
infrared tunnel, for earthenware or porcelain hollow ware, (5) 120*c*.
with preheater, for ceramic ware, P (8) 197*j*.
sludge, in rotary kilns, (1) 16*c*.
spray, P (4) 90*a*.
temperature control, P (8) 198*a*.
turbulent pneumatic, for granular materials, P (2) 42*f*.
vacuum, lump breaker for, P (11) 265*j*.
for glass, P (10) 230*a*.
Drying. See also *Driers.*
behavior, of clays, (5) 118*d*.
of brick, experiments, (7) 159*j*.
of brick clays, factors affecting, (5) 112*j*.
of ceramic ware with complicated shapes, (8) 193*g*.
and classifying, loose material, apparatus for, P (4) 99*a*.
of clays, effects of plasticity, (6) 148*j*.
of clay ware, B (1) 25*j*.
defects, causes prior to and during drying, (5) 118*f*.
by dielectric loss, (5) 118*d*.
flash, of blocks from lightweight aggregates, (11) 257*f*.
of gypsum, method and apparatus, P (9) 205*c*.
humidity, I, (6) 141*f*.
rapid, rational technique for use of steam in, (5) 118*g*.
rate, effect on strain development in brick, (7) 159*g*.
of refractory linings for rotary kilns, (7) 160*f*.
spray, P (6) 140*c*.
strains, development in wire-cut brick, (7) 159*g*.
of ware, by infrared radiation, (5) 120*b*.
Dry pressing. See *Pressing.*
Ductility, of MgO, effect of impurities and heat treatment on, (6) 147*g*.
of MgO single crystals, (9) 219*e*.
Dumortierite, in U. S., bibliography of, (2) 44*g*.
Dunite, stoppers and runner brick from, (1) 9*b*.
Dusting, of dicalcium silicate containing clinker, (6) 132*g*.
Dusts. See also *Air, pollution; Particles; Powders.*
in atmosphere, measurement, P (1) 14*i*.
from cement kiln, reclaiming for mixing with kiln fuel, (3) 54*g*.
collection and evaluation of, (5) 123*e*.
collectors, centrifugal, P (11) 265*e*.
and filter element, P (8) 196*h*.
liquid level control for, P (8) 196*f*.
multiple tube cyclone, P (2) 42*b*.
seal between rolls and dust wall, P (10) 239*j*.
control, (1) 22*d*.
counting, statistical aspects, (6) 140*i*.
disposal methods, (6) 149*g*.
extraction, centrifugal, effect of differences between cyclones and multicyclones, (11) 264*k*.
extraction systems, in pottery industry, B (1) 22*g*.
formation, in rotary cement kilns, study with radioactive isotopes, I, II, (2) 28*i*; III, (6) 132*h*.
formation, in rotary cement kiln, study by radioindustrial, elimination, (1) 22*b*.
magnetic traps or filters, P (9) 216*b*.
particles, gas-borne, collection by means of aspirated sampling nozzle, (9) 219*g*.
removal from gases in cement and ceramic factories by foam filters, (5) 118*i*.
separation from hot gas, P (7) 166*e*.
Dyes, basic, adsorption by clays, (6) 147*d*.
organic fluorescent, paper containing, P (7) 167*f*.
for tightly wound glass fibers, P (2) 32*i*.
Dysprosium, oxide, compositions, (4) 100*j*.
oxide, systems. See *Systems.*

Earthenware, bentonite in, (2) 39*a*.
bodies, addition of peptizers and bentonite, (5) 115*c*.
firing in shielded tiered cars of tunnel kilns with oil as fuel, (6) 141*c*.
glazes, boron-free leadless, (5) 114*j*.
infrared tunnel drier for, (5) 120*c*.
Russian, development trends 1959–1965, (2) 38*j*.
Education, ceramic, future of, (9) 222*e*.
in high schools, (9) 203*j*.
art, Ceramic Educational Council and, (1) 1*j*.
engineering, experience with 5-yr. curriculum, (9) 222*e*.
engineering college research review 1959, B (5) 130*d*.
Efficiency, of clayworking equipment, evaluation of, (8) 196*a*.
quantum, of proportional counter using X rays, (7) 174*i*.
thermal, of fuels for wet process rotary cement kiln, (9) 204*g*.
Efflorescence, Camerman theory, (1) 7*e*.
laboratory studies of, (1) 7*h*.
testing program for economic control, (11) 257*i*.
Elasticity, of ceramics and cermets at room temperature, (8) 201*i*.
elastic aftereffects, measurement during pressing of magnesite bodies, (9) 211*d*.
elastic constants, of ceramic materials, resistance strain gauge for determining, (3) 68*f*.
of diamond, (4) 101*a*.
of glass and ceramics, apparatus for determining, (1) 14*j*.
of synthetic single-crystal corundum at room temperature, (7) 172*g*.
elastic properties, of Dinas, dependence on echnological factors, (9) 210*g*.

Elasticity, elastic properties (*continued*)
of Dinas during heating, regularity of change, (10) 233*f*.
of glazed tile, (1) 11*f*.
of nonmetallic single crystals, B (11) 274*j*.
elastic vibrations, of quartz plates in stationary electrical fields, (11) 262*i*.
of glasses, effect of electron bombardment, (9) 206*a*.
modulus, in determining effect of factors on strength of ceramics, (7) 182*e*.
modulus, of silicon nitride, (10) 234*b*.
of plastic ceramic bodies, (5) 124*f*.
-temperature, relations in refractories, (1) 8*g*.
and viscoelasticity in ceramics, symposium on, (7) 180*b*.
Young's modulus, of black soda glass fibers, (10) 229*i*.
Young's modulus, experimental and theoretical relations to resonance frequencies of uniform bars, (8) 199*j*.
Electric ceramics, B (1) 22*j*. See also *Electronics*.
with high thermal shock resistance, development of, (7) 181*b*.
historical development, (2) 39*f*.
method of printing circuits directly on ceramics, (6) 142*d*.
Electric components, module wafer support for, P (3) 66*i*.
Electric conductivity. See *Conductivity, electrical*.
Electric discharge devices, activating material for electrodes in, P (5) 117*b*.
getters for, P (2) 40*f*.
Electric properties, of $BaTiO_3$, containing Sm, (4) 92*g*.
effect of contamination from wet milling on, (1) 12*e*.
effect of pentavalent cations on, (8) 194*j*.
of diamonds, (3) 77*i*.
of diamonds, effects of pressure, (3) 74*a*.
of garnets, (1) 13*d*.
of Indian mica, (4) 98*f*.
of Indian mica, parallel loss, (3) 70*e*.
of $FeTiO_3$ and $NiTiO_3$, (6) 142*e*.
of $FeTiO_3$-Fe_2O_3 solid solution series, (6) 142*e*.
measurement at high temperature, B (6) 152*d*.
of MnTe, (6) 142*j*.
of mica, as basis for rapid classification, (10) 237*e*.
of oxide ferromagnetic materials, (1) 12*g*.
photo-, of Ti and Nb oxide films produced by anodic oxidation, (7) 163*c*.
of polycrystalline materials, B (6) 150*j*.
of vitreous silica, (2) 31*g*.
Electric resistance. See also *Conductivity, electrical*.
of carbons, (3) 78*f*.
of electrically conducting film, apparatus for determining, P (11) 257*b*.
elements, Kanthal Super, for 1700°C., (4) 97*h*.
in measurement of cation distribution of Fe–Mn ferrite system, (2) 39*i*.
as measure of degree of sintering, (5) 116*d*.
variable, liquid-column device, P (3) 67*b*.
Electric resistor, P (4) 93*i*; P (8) 195*b*.
with ceramic electrical components, P (10) 238*h*.
composition, P (5) 117*f*; P (7) 164*b*.
construction, P (4) 94*f*; P (10) 238*i*.
flakes, flattening process, P (2) 41*b*.
glass-sealed, P (8) 195*c*.
glass with SnO_2 layer as, (7) 156*b*.
and materials for, P (2) 37*d*.
positive temperature coefficient, processing of, (7) 163*d*.
SiC, P (10) 238*j*.
SiC, recrystallized, P (4) 90*b*.
in temperature measurement and control, (2) 43*b*.
thermally sensitive, P (9) 215*c*.
Electroanalysis. See *Analysis*.
Electrocapillarity, of slag and metal compositions, (2) 35*f*.
Electroceramics. See *Electric ceramics*.
Electrochemistry. See *Corrosion; Electrolysis*.
Electrodes. See also *Heating elements*.
assembly, P (8) 192*d*.
attaching device, for electric arc furnaces, P (1) 16*a*.
C, in partial electrolysis of glass for decreasing discoloration, P (4) 86*j*.
C, protection in electric furnace, P (11) 261*a*.
choice for ceramic semiconducting oxides, (8) 194*g*.
coated, for welding cast iron, P (1) 4*c*.
collecting, for electrofilter, P (11) 265*i*.
collecting, hollow box type for electrofilters, P (9) 216*a*.
connecting nipple, P (10) 235*a*.
construction of, P (3) 66*i*; P (10) 238*i*.
double skeleton catalyst, P (7) 161*i*.
in electric discharge devices, activating material for, P (5) 117*b*.
for electrostatic coating apparatus, P (7) 165*c*.
glass, highly conductive, for pH measurement, (1) 5*g*.
investigations with ^{24}Na, (11) 254*e*.
and platinum, electrochemical phenomena between, B (6) 150*d*.
with ^{24}Na, alkali error in, (9) 208*h*.
for glassmelting furnace, P (3) 58*c*.
in glass vessels, mounting for, P (6) 143*b*.
graphite, in electric glass furnaces, (6) 135*c*.
holder, for electric smelting furnace, P (4) 98*a*.
installation for electric furnaces, P (3) 69*g*.
insulated, P (3) 66*c*.
oxygen, application in galvanic cells with glasses of different composition, (11) 253*g*.
oxygen, for measuring acid-base properties of glasses, (11) 253*e*.
of porous lithiated nickel oxide, P (4) 98*c*.
tool, for detaching material from solid body, P (1) 21*f*.
Electrodes (*continued*)
welding, sheathed, continuous drying kiln for, P (11) 267*f*.
welding to semiconductor body, P (7) 164*c*.
Electroluminescence. See *Luminescence*.
Electroluminescent materials. See *Luminescent materials*.
Electrolysis, partial, of glass with C electrodes, in decreasing discoloration, P (4) 86*j*.
of quartz, mechanism for, (11) 263*e*.
Electrolytes, poly-, effect on drying of British clays, (3) 70*d*.
poly-, as water-indicating devices, P (9) 217*g*.
Electromagnets. See *Magnets*.
Electron diffraction, data, for sepiolite, (6) 149*e*.
mineralogical applications, I, (3) 76*f*.
study, of effects of heat-treatment on α-Fe_2O_3 single crystals, (10) 244*d*.
study, on epitaxial growth, (10) 244*f*.
Electronic equipment, "hound," for prevention of hot spot damage to cement kiln, (4) 82*i*.
for measuring particle size, (7) 165*g*.
printed circuit sandwiched in glass, P (9) 215*c*.
recording, alkali metal modified ferromagnetic Cr oxide for, P (6) 143*a*.
recording, Sn-modified ferromagnetic Cr oxide in, P (6) 143*g*.
undersea repeaters, glass seals for, (5) 116*d*.
Electronics. See also *Electric ceramics*.
developments in pottery industry, (3) 63*e*.
materials, study of and applications, B (1) 25*h*.
single crystal materials for, (6) 142*g*.
technical progress in, (9) 208*b*.
Electrons, bombardment, effect on elasticity and mechanical damping of glasses, (9) 206*a*.
effect on properties of glasses, (9) 206*d*.
of glass, as cause of outgassing, (7) 157*d*.
in induced dissociation of alkaline earth oxides, (10) 244*b*.
bonding, in diamond, density of, (8) 200*e*.
discharge devices, cold cathode for, P (11) 263*f*.
emission, in cathode assemblies, control of, P (4) 93*g*.
slow, dissociation of SrO by impact of, (9) 219*d*.
trapped, in irradiated quartz and silica, I, II, (9) 208*d*.
Electron tubes. See *Tubes*.
Electrostatic processes, for beneficiating minerals, P (1) 18*d*.
cleaning gases with charged particles, P (7) 164*j*.
coating, apparatus and method, P (7) 165*c*.
by causing coalescence of coating droplets, P (6) 144*b*.
of surfaces, P (1) 4*a*.
for eliminating static charges from workpiece, P (6) 131*f*.
Electrostrictive ceramics, preaging of, P (10) 238*g*.
Elements, heating. See *Heating elements*.
rare, effect of oxides of on thermal shock resistance of synthetic diopside porcelain, (3) 64*a*.
of supplementary subgroups, composition of mixed thermodynamically stable compounds of, (9) 219*j*.
trace, in Hardin County, Ill. clay, (9) 218*c*.
and minor, in coals, spectrochemical determination, (3) 69*b*.
in rocks and minerals, matrix corrections in X-ray spectrographic analysis, (3) 75*j*.
transition, color imparted to pure compounds and glasses by, (6) 147*i*.
and their solid solutions, superexchange interactions and magnetic lattices of, (2) 48*h*.
structure changes in nonstoichiometric oxides of, (7) 180*e*.
valences, in analytical procedures, (7) 181*b*.
Elutriators. See also *Beneficiation*.
powder, P (10) 239*g*.
Emery, coefficient of friction, effect of surface roughness, (2) 27*e*.
Emission, electron, control in cathodes, P (4) 93*g*.
secondary, from MgO thin films, (7) 178*g*.
spectral, of radiation by glass, (10) 229*i*.
thermionic, of CaO cathodes during activation and poisoning, (10) 237*j*.
Emissivity, of dispersed carbon particles, (6) 147*h*.
spectral, of ceramic bodies at elevated temperatures, (5) 124*f*.
low temperature, directional, of translucent solids, (11) 266*f*.
of tungsten, (4) 101*i*.
total, of refractory materials above 900°C., (3) 61*j*.
Emittance, spectral, of ceramic-coated and uncoated Inconel and stainless steel, (1) 3*i*.
Emitters, thermionic, method of activating, P (4) 93*i*.
Emulsification, of solids, (5) 125*b*.
Emulsions, dielectric determination of water in, (9) 219*a*.
statistical theory of particle size distribution in, (5) 128*b*.
Enameled ware, bathtub, new design, P (5) 106*c*.
complete buildings, production of, (7) 155*e*.
electrical appliances, high speed blanking and slitting for, (3) 55*e*.
hot-water tanks, revision of Commercial Standard CS115-44 for, (2) 30*h*.
material and construction defects, (3) 55*j*.
panels. See *Building materials*.
ranges, European manufacture, (3) 55*f*.
repair method, P (5) 109*a*.
sinks, ribs, apparatus for polishing and buffing, P (8) 187*a*.
smokestacks, advantages of, (10) 226*h*.
Enameling, de- and re-, of sheet steel, (8) 186*j*.
defects, causes and elimination, I–III, (6) 133*j*.
defects, subcutaneous blowhole, formation in gray cast iron enamels, (9) 205*e*.
direct-on, review, (3) 55*g*.
Enameling (*continued*)
expansion coefficients in, (8) 186*j*.
furnaces. See *Furnaces*.
growth of Al during, (5) 108*g*.
importance and measurement of contact angles in, (2) 42*h*.
interior of hollow metal bodies, P (4) 84*g*.
low temperature, at Frigidaire, (6) 133*h*.
low temperature, progress report, (1) 3*f*.
one-coat, Inland One-Cote sheet for, (7) 155*i*.
white, literature review, (11) 252*f*.
white process, for cold-rolled steel, (7) 155*h*.
white process, development work, (7) 155*e*.
operations, manual, B (2) 50*d*.
plant layout and equipment, (5) 108*f*.
selection of clays for, (3) 55*i*.
of small parts, advantages of, (4) 83*i*.
steel shot in, (8) 186*j*.
technique, B (4) 104*h*.
of thick stock, guideposts, (1) 3*f*.
Enameling apparatus. See *Furnaces; Spraying*.
Enameling industry, new products, (10) 226*h*.
Enameling metals, Al, alloys, P (8) 187*b,c*.
dimensional changes in, (5) 108*g*.
experiments on, (5) 108*g*.
new plant design, (1) 3*j*.
physicochemical processes, (8) 187*f*.
pretreatment for applying lead, borosilicate, and phosphate enamels, (11) 252*g*.
in Chinese plants, (8) 186*j*.
gray cast iron, effect of Mn sulfide segregation, (9) 205*e*.
iron, or steel, ground-coat frit for, P (8) 187*f*.
pickling. See *Pickling*.
preparation, factors affecting, (7) 155*h*.
preparation and processes, B (4) 104*h*.
steel, cold-rolled, one-coat white process for, (7) 155*h*.
for curtain-wall construction, (5) 108*d*.
with intermediate layer of NiO, P (10) 227*d*.
preparation for one-coat white process, (7) 155*f*.
for protection against corrosion in power plants, (9) 205*f*.
Enameling plants and manufacturers, Avondale, producers of "package" porcelain enameled buildings, (7) 155*e*.
conversion from conventional to low-temperature enameling, (6) 133*h*.
Enamels. See also *Coatings*.
adherence, comparison of MPI test for, (9) 205*e*.
adherence, to metals, nature of, (1) 3*g*.
for Al, and alloys, P (4) 84*d*.
based on Pb–phosphate–silicate system, (9) 205*f*.
techniques for milling, spraying, and firing, (7) 155*f*.
architectural, on steel, report of committee on specifications for, (5) 108*f*.
as binders for solid lubricant coatings, (3) P 56*a*.
as building materials, I, II, (6) 133*i*.
cement, for filling holes in metal casting, (11) 252*h*.
chipping, effect of coating thickness, (8) 186*h*.
color in, (3) 52*c*.
composition, P (6) 134*c*.
composition, production, properties, and testing, B (4) 104*h*.
for corrosion protection, P (9) 205*g*.
for curtain walls, B (4) 103*d*.
defects. See also *Enamels: chipping, fish-scaling, reboiling*.
causes, (3) 55*j*.
detection with metallurgical microscope, (2) 30*i*.
increase with steel thickness, (1) 3*f*.
development of, (8) 186*i*.
development of lower costs and better service and appearance, (1) 3*j*.
dry compound application, test for controlling, (2) 30*j*.
effect of mill additions on properties, (8) 187*e*.
from Egyptians to jets, historical review, (6) 133*j*.
engineering properties of, as basis for new products, (10) 226*h*.
fineness of grind, determination, (3) 55*h*.
fishscaling, effect of mill additions on sheet ground-coat enamels, (11) 252*i*.
fishscaling, prevention by layer of NiO on steel, P (10) 227*d*.
flame spraying of, for high temperature protection, (9) 205*j*.
frits. See *Frits*.
fusibility, determination by shadow method, (8) 186*h*.
glass, fired-on, preparation and application, (9) 205*d*.
glass, in photoconductors, P (9) 214*i*.
for glass wall tile, (8) 188*j*.
ground-coat, and cover-coat, developments at Frigidaire, (6) 133*h*.
ground-coat, for sheet iron, addition of Cr_2O_3 and Al_2O_3, (8) 186*i*.
for high temperature insulation, composition, P (4) 84*b*.
insulating, for electrical radiant heater, P (10) 227*b*.
lead, borosilicate, and phosphate, application to Al plates, (11) 252*g*.
lead in, polarographic estimation, (4) 84*j*.
for light metals, P (7) 156*a*.
low-temperature, development, (1) 10*i*.
low-temperature, for sheet steel, (6) 133*j*.
for magnet wire, (4) 83*j*.
making, applying, and testing, B (2) 50*d*.
on metal, in imitation of faience majolica, (5) 106*b*.
-metals, reaction kinetics of, (6) 134*a*.
for metals, for shielding nuclear reactors, (8) 187*c*

Enamels (*continued*)
milled, rapid determination of subsieve fineness, (1) 34*h*.
one coat, metallic finished, for iron or steel, P (2) 30*h*.
physical and chemical properties, (2) 30*f*.
pink, frit composition for, P (5) 108*g*.
preparation and application to ranges, (3) 55*f*.
production by smelting, P (5) 108*j*.
properties, decorative and functional, (10) 226*g*.
quality control testing of, (1) 3*g*.
reboiling, review of, (11) 252*j*.
selection, for one-coat white process, (7) 155*h*.
slips. See *Slips*.
stress in, under thermal shock, B (10) 248*g*.
for structural panel, P (4) 84*a*.
test of resistance to condensing water vapor, (7) 155*i*.
titania opacified, (10) 226*h,i*.
Ti opacified, color stable, P (9) 205*i*.
used in Chinese plants, (8) 186*j*.
weathering, electronic computer for processing data on, (2) 30*c*.
white opaque, for cast iron, P (11) 252*i*.
Energy, condensation, for metals on glass and other substrates, (7) 170*j*.
electromagnetic wave, material for absorbing, P (6) 143*f*.
electrostatic, of tridymite and cristobalite crystal lattices, (6) 148*h*.
free-, function, in 5°C. transition in $BaTiO_3$, (4) 102*g*.
nuclear, BeO as material for, (4) 98*e*.
nuclear, progress of metallurgy and fuels in, B (5) 130*j*.
spectral, relative distribution of CIE standard source A, (4) 101*h*.
storage, in beryllium oxide, (2) 47*j*.
surface, measurement at high temperature, B (6) 152*d*.
Engineering, ceramics in, (8) 193*f*.
chemical, catalog, B (2) 49*e*.
college research review 1959, B (5) 130*d*.
education, experience with 5-yr. curriculum, (9) 222*e*.
industrial, application to cement plants, (6) 133*a*.
materials, effects of radiation, (10) 244*i*.
materials, handbook, B (1) 23*f*.
materials, predictions for, (6) 149*h*.
nuclear, powder metallurgy in, (7) 160*c*.
Engineers, cement, handbook for, B (6) 150*d*.
research as challenge to, (9) 222*f*.
research, function and fate in industry, (9) 222*f*.
Engobes, fired, causes of color variation in, (1) 7*d*.
in sanitary ware industry, (7) 162*j*.
with TiO_2 and ZnO, (9) 213*e*.
Epitaxy. See *Crystallisation*.
Equilibrium studies. See also *Systems*.
in ferrite region of system $FeO–MgO–Fe_2O_3$, (5) 116*f*.
measurements between C-saturated Mn–Fe–Si melts and $CaO–Al_2O_3–MnO–SiO_2$ slags, (7) 172*i*.
phase diagrams, for ceramists, II, B (1) 24*j*.
of cryolite–alumina, determination by quenching methods, (3) 73*j*.
of UO_2, B (9) 223*j*.
phase rule, deduction, applications, and limitations, B (2) 49*e*.
phase transformations, B (1) 23*i*.
phase transition, in WO_3, (3) 65*h*.
in subsystem barium disilicate–dibarium trisilicate, (2) 47*f*.
of system $BaO–Fe_2O_3$, (4) 101*h*.
$CaO–Al_2O_3–H_2O$, (1) 21*a*.
iron oxide–$Al_2O_3–Cr_2O_3$, (1) 20*c*.
iron oxide–Cr_2O_3 in air, (5) 126*f*.
iron oxide–$Cr_2O_3–SiO_2$ in air, (11) 271*e*.
KCl–$TiCl_3$, (1) 20*c*.
rare-earth oxide–water, (1) 21*b*.
$UF_4–ThF_4$ and $LiF–UF_4–ThF_4$, (5) 126*d*.
$ZnO–TiO_2$, study by hydrothermal, strip-furnace, and solid-state-reaction, (4) 101*j*.
of ternary alkali–alkaline earth–beryllium fluoride glass systems, (5) 111*h*.
on ZrO_2, ThO_2, and UO_2 at low temperature, (6) 148*e*.
Erionite, from Cenozoic tuffaceous sediments, Nevada, (6) 147*i*.
Erosion, electric, for detaching material, P (1) 21*f*.
of hard crystalline carbon, P (10) 239*b*.
Esters, alginic acid, in glaze slips, (6) 140*i*.
Etching, of barium glass, P (2) 33*b*.
of dislocations, corundum single crystals, (10) 245*i*.
etch pits, on calcite cleavage faces, (8) 200*c*.
flash, of Al_2O_3 grain boundaries, (11) 270*i*.
of jacobsite, variation with different cell dimensions, (3) 79*a*.
Eutectics, point, quaternary, systematic method for determining, (7) 177*a*.
Evaporation, of Al_2O_3, effect of tungsten, (4) 101*a*.
of Li_2O from solid solution of Li_2O in nickel oxide, (4) 101*c*.
at low pressures, (8) 200*c*.
thermal, for depositing indium oxide coatings, P (8) 187*e*.
thermal, for metal coating ceramic rods, P (2) 41*e*.
Excavators, rotary, with chain distributing conveyer, (1) 17*d*.
rotary, with staged conveyer swing chute for winning clays, (1) 17*h*.
Expansion. See also *Dilatometers*.
of cement, relation to aggregate and MgO and alkali content, (3) 53*d*.
coefficients, in enameling, (8) 186*j*.
of fired kaolin when autoclaved, (7) 173*b*.
of liquid silicates, (8) 201*h*.
moisture, of ceramic materials, (8) 199*j*.
permanent, of clay products, I, (8) 190*g*.
Expansion, moisture (*continued*)
permanent, of clay products on natural exposure, (4) 88*b*.
of porous ceramic bodies, (3) 63*g*.
of structural clay products, (1) 7*c*.
of perlite ore, P (1) 18*d*.
of porous silica glass, from adsorption of nonpolar gases at liquid air temperatures, (3) 56*j*.
thermal, coefficient, of silicon nitride, (10) 234*b*.
of compositions containing Li_2O, Al_2O_3, and SiO_2, (2) 48*g*.
data, interpretation in research and control practices, (7) 165*i*.
of deteriorated steatite bodies, (4) 91*g*.
of fired glaze, determination by index of refraction, (1) 10*g*.
of glass, formula for calculation, (3) 57*i*.
of hafnium carbide, (10) 245*g*.
linear, of glasses and graphites, (8) 188*f*.
linear coefficient, importance in glass processing, (3) 57*j*.
measurement at high temperature, B (6) 152*d*.
of silica refractories, relation to mineralogical composition, (11) 259*f*.
and structural, in alkali silicate binary glasses, (2) 32*b*.
techniques and apparatus for measuring at very high temperatures, (11) 265*c*.
Exposure, at 40°C., effect on workability and strength of concrete, (5) 106*j*.
Extraction, chemical, of monohydrate alumina, P (11) 268*f*.
electrolytic, of metals from their carbides, P (5) 122*e*.
of fissile, fertile, and related materials from ores, B (10) 247*h*.
liquid-liquid, in determination of Th in ores, (7) 171*b*.
liquid-liquid, for recovery of high purity thorium oxide, P (11) 268*h*.
Extrusion. See also *Dies*.
of brick, studies of wire-cut process, (9) 215*j*.
experiments in, (6) 143*j*.
mandrel, displaceable guiding mechanism for, P (8) 196*g*.
press, mathematical study of operating conditions, (10) 239*b*.

Factorial design, of experiments in ceramics, II, (7) 182*c*.
Factories, floor finishes for, (1) 22*f*.
lighting of, (1) 22*d*.
multistory, design of, (1) 22*d*.
Fading, of irradiated phosphate glass, formula for, (7) 156*g*.
Faience, Herreböe, Oslo exhibition, (5) 106*a*.
Fainshtein, firing of, effect on linings of tube furnace, (8) 192*c*.
Fatigue, proposal of new definition, (1) 21*g*.
static, of abraded glass, I, II, (1) 5*h*; III, (4) 85*a*.
Feeding apparatus, for analyzer, P (7) 166*a*.
auger, for granular material, P (4) 99*c*.
automatic control, P (6) 144*e*.
automatic liquid, in flame spectrophotometer, P (11) 273*b*.
for brick press, P (3) 68*a*.
for bulk material to plural supply locations, P (7) 164*i*.
for cement slurry, adjustment to kiln speed, (3) 55*a*.
chute, for metal powder rolling mill, P (5) 121*i*.
for colored glass frit, P (7) 158*c*.
for dry pans, effect of modifications, (9) 215*f*.
for finely divided materials, P (5) 118*g*.
for glass batch materials, P (8) 189*f*.
for granular material, P (5) 118*g*; P (8) 196*a*.
gravimetric screw type, P (1) 14*d*.
for gyratory crushers, P (5) 121*i*.
hopper, for granular material, P (4) 95*h*.
for liquid, in blending mill, P (3) 67*i*; P (4) 95*b*.
for molten glass, P (7) 157*i*.
for shaft furnaces, P (1) 16*c*.
for slurry, P (4) 96*a*.
with tilting disk weigher, P (6) 144*d*.
traveling grate, for sintering machine, P (8) 197*g*.
trough, heated liner for, P (11) 265*b*.
vibratory, P (5) 119*a*.
Feldspar, (6) 145*g*.
alkali, IV–VI, (7) 168*j*.
analysis of aluminum in, (7) 181*d*.
blend, as replacement for bone in china, (7) 162*f*.
in bonds for vitrified abrasive wheels, (2) 27*f*.
effect on reactions of ceramics during burning, (8) 200*e*.
effect of surface chemistry on decomposition products, B (9) 223*b*.
grains, in kaolinite body, deposition of mullite crystals in, (7) 175*c*.
and mica, reactions with water at low temperature and pressure, B (9) 223*c*.
in 1958, (5) 120*i*.
original meaning of word, B (1) 22*g*.
plagioclase, chart for determination of composition from refractive index, (3) 75*b*.
factors affecting albite, pericline, and acline-A twins, (3) 74*g*.
heated, optical properties, (3) 76*f*.
simple fusion method for determination from thin section, (3) 77*f*.
potash, correlation between X-ray emission and flame photometer determination of K_2O content, (6) 147*e*.
potash, decomposition, (8) 200*c*.
and quartz, mixtures, immersion method of determining dielectric constant, (3) 63*b*.
rocks, development of mineral raw material base for, (6) 145*h*.
search for new deposits in Alberta, (6) 149*j*.
Feldspar (*continued*)
in sheet ground-coat enamels, effect on fish-scaling, (11) 252*i*.
Ferric oxide. See *Iron, oxide, ferric*.
Ferrimagnetism. See *Ferromagnetism and ferromagnetic materials*.
Ferrites, B (6) 150*j*. See also specific types.
bodies, manufacture of, (3) 65*d*.
as conductors and semiconductors, B (1) 23*i*.
with constricted magnetic hysteresis loop, P (8) 194*b*.
Cu-containing, crystallographic and magnetic properties, (1) 13*c*.
in engineering, (8) 193*f*.
ferrimagnetism in, (2) 39*f*.
ferromagnetic, with rectangular hysteresis loop, P (3) 66*d*.
with square hysteresis loop, P (4) 93*h*; P (7) 164*d*.
for use at microwave frequencies, P (7) 164*f*.
impregnated, for microwave device, P (8) 195*b*.
individual microscopic particles, near single-domain size, magnetic measurements, (11) 263*b*.
Fe–Co, uniaxial anisotropy in, (6) 142*h*.
Fe–Mn system, electric resistance and cation distribution of, (2) 39*i*.
Li–Ni, sublimation of Li from, (11) 263*g*.
Mg–Mn, cation distributions in, (7) 169*c*.
magnetic aftereffects and electron diffusion in, (9) 214*d*.
reproducible, preparation of, (3) 65*a*.
magnetic, for computer components, (1) 12*i*.
heads, for operation within wide frequency range, P (11) 263*i*.
preparation, I, (5) 116*h*.
production of, P (7) 164*c*.
in magnetic field, changes in electric resistivity, (9) 213*h*.
magnetic properties, relation to structure, (9) 213*j*.
Mn, remagnetization experiments, (1) 13*b*.
Mn–Zn, orientation to hematite precipitate, (1) 13*a*.
Mn–Zn, process for, P (7) 164*c*.
modified, P (3) 66*g*.
Ni, evaluation of forming methods, (1) 12*e*.
Ni–Fe, magnetic properties, (1) 12*f*.
Ni–Zn, for industrial use, (1) 12*h*.
Ni–Zn, molecular field fluctuation effects, (4) 92*a*.
ordering and antiferromagnetism in, (11) 263*g*.
phase composition calculation, (1) 12*b*.
plate, in electrical transformer, P (4) 94*a*.
relaxation process, modulation method for studying, (1) 12*k*.
rotational magnetic losses, measurement at very low frequencies, (1) 12*i*.
single-crystal, anisotropic, microwave resonance relations in, (4) 92*j*.
single-crystal cores of, P (3) 66*b*.
sintering of, (5) 116*g*.
spheres, multiple ferromagnetic resonance in, (3) 65*f*.
Sr-rich, magnetic properties of, (3) 65*b*.
uniaxial anisotropy induced by magnetic annealing, (7) 163*h*.
Ferroelectricity and ferroelectric materials. See also *Barium, titanate*.
activation of, P (7) 164*a*.
$BaTiO_3$ as, P (4) 92*j*.
$BaTiO_3$ single crystals, B (11) 274*d*.
composition, for transducers, P (4) 93*c*; P (5) 118*a*.
domains, processes in lead titanate zirconate and barium titanate ceramics, (4) 92*f*.
ferroelectric behavior in Ba *Zr* metaniobate, (3) 64*i*.
ferroelectric ceramics, thermodynamic theory of, (4) 92*i*.
ferroelectric storage array, P (3) 66*a*.
$PbNb_2O_6$, X-ray study of phase transitions in, (10) 246*b*.
measurement of dielectric constant at S-band frequencies, (7) 163*g*.
memory device, P (1) 13*c*.
permanent electrostatic polarization, P (9) 214*j*.
polarization measurement, nondestructive method, (9) 214*f*.
$KNbO_3$, behavior in cubic-tetragonal transition, (1) 12*a*.
properties of colemanite, (5) 116*a*.
silver niobate, P (11) 264*c*.
single crystal, surface treatment, P (4) 94*i*.
Ferromagnetism and ferromagnetic materials. See also *Magnetic materials*.
of α-Fe_2O_3, (3) 64*g*.
antiferromagnetic $FeVO_3$, production of, (10) 237*c*.
antiferromagnetic transition, in zinc ferrite, (11) 262*h*.
antiferromagnetism, in Cr_2O_3 crystal, (11) 262*i*.
antiferromagnetism, and ordering, in ferrites, (11) 263*g*.
Sb-modified Cr oxide as, P (6) 143*b*.
CoTe, investigations of, (7) 163*i*.
composition, P (10) 238*b*; P (11) 263*g,h*.
crystalline anisotropy of Fe–Mn ferrite system, (11) 262*j*.
device for measuring wall thickness of article from, P (8) 195*f*.
device for rotating plane of polarization of electromagnetic wave, P (4) 93*f*.
domain-wall relaxation, effect on electron-diffusion of yttrium iron garnet, (1) 13*i*.
ferrimagnetic, material formula, P (11) 264*a*.
resonance, in yttrium iron garnet, (4) 92*i*.
spinel-type, triangular moment arrangements in, (1) 12*j*.
ferrimagnetism, application of Bethe-Weiss method, (7) 169*b*.
ferrimagnetism, in oxide structures, (2) 39*f*.

Ferromagnetism and ferromagnetic materials. (*continued*)
ferro- and antiferromagnetism, phenomenological theory, (1) 13*f*.
ferromagnet, ideal, thermodynamic behavior, (1) 13*j*.
ferromagnetic resonance, multiple, in ferrite spheres, (3) 65*f*.
physical conditions for, (2) 40*g*.
of yttrium iron garnet, surface-independent spin-wave relaxation in, (1) 13*g*.
of $GaFeO_3$, occurrence simultaneously with piezoelectricity, (9) 214*a*.
magnetic structure of $La(Mn,Cr)O_3$, neutron diffraction study, (4) 92*b*.
oxide, electric properties of, (1) 12*g*.
preparation, P (5) 117*i*.
relaxation process, measurement by modulation technique, (1) 12*h*.
resonance absorption, in pyrrhotite single crystal, (7) 163*c*.
Ferrospinel. See *Spinel*.
Fertilizers, containing calcium silicate, P (2) 45*f*.
Fibrous materials. See also *Asbestos; Glass, fibers; Mineral wool; Quartz, fibers; Talc; Wollastonite*.
apparatus for mixing or blending, P (1) 14*h*.
ceramic-metal, research programs, (5) 116*b*.
fiberizing unit, binder distribution and atomizing system for, P (11) 251*b*.
inorganic, electron micrographs of, (6) 145*i*.
for insulation of sheet metal at 2000°F., (2) 35*f*.
metal, as reinforcing for thoria, (10) 234*e*.
panels, containing Mg cement, process for steam treating, P (11) 252*b*.
synthetic, structure of, B (5) 130*i*.
Films. See *Coatings*.
Filters, absorbing, in high-temperature optical pyrometry, (12) 266*f*.
blocks, for trickling filter beds, P (8) 190*i*.
capillary, pore distribution, shape, and size, (5) 124*i*.
for cement plant operations, (3) 53*g*.
ceramic ladder, housing for, P (7) 164*g*.
cloth, organic compounds for improving, (3) 71*a*.
dust, magnetic, P (9) 216*b*.
dust, with seal between rolls and dust wall, P (10) 239*j*.
electro-, collecting electrode for, P (11) 265*i*.
hollow box type, collecting electrode for, P (9) 216*a*.
for purifying flue gases of drying drums, (3) 67*e*.
electrocorundum, for purifying aluminate liquor, (4) 98*j*.
element, for dust collector, P (8) 196*h*.
foam, for dust removal from gases in cement and ceramic factories, (5) 118*i*.
glass, for solar radiation research, transmission in, (2) 32*g*.
glass plate, in glass apparatus construction, (7) 156*j*.
light, heat resistant yellow-orange, (8) 188*d*.
magnetic, P (9) 216*d*.
membrane, for aerosol filtration, (5) 123*c*.
mica interference, with transmission bands of narrow half-widths, (1) 15*d*.
molecular, porous crystals as, (7) 176*a*.
monochromatic and interference, B (6) 150*d*.
piezoelectric ceramic, P (11) 264*b*.
rotary pressure, for separation of solids and liquid from slurry, P (4) 95*b*.
rotary vacuum, P (1) 14*h*.
Filtration, rate, of clays blunged in high-intensity dispersion mill, (3) 63*i*.
of titania hydrate, P (9) 218*f*.
Fine ceramics. See *Whiteware*.
Fineness, subsieve, of milled enamels, rapid determination, (1) 3*h*.
Fire clay. See also *Refractories*.
cation exchange in, structural significance, (11) 272*d*.
geology of, (2) 44*f*.
production in 1958, (5) 120*i*.
rational analysis, (7) 178*d*.
refractory products from, B (8) 202*i*.
Scottish, chlorite convention in evaluation of, (7) 170*c*.
Firing. See also *Burners; Calcination; Combustion; Flames; Furnaces; Kilns; Sintering*.
automatic, of electric furnace, (6) 145*b*.
behavior, of antique decorating slips, (8) 185*g*.
biscuit, bedding clayware pieces for, P (10) 236*e*.
of brick, with water injection into high-temperature zone, (7) 159*i*.
of ceramic grinding wheels, (8) 185*e*.
of ceramic ware, in intermittent ovens, P (10) 240*f*.
check, P (4) 98*b*.
of clay ware, calculation of fuel needed, B (1) 25*j*.
conditions, effect of furnace pressure, (4) 97*e*.
conversion from coal to heavy oil in salt-glazed pipe kiln, (11) 267*d*.
of crystalline stoneware glaze, (9) 203*i*.
flash, of block from lightweight aggregates, (11) 257*f*.
gasification of oil to produce ideal conditions, (3) 69*e*.
gasified oil, economy of use, (9) 217*i*.
of glass furnace, change from producer gas to natural gas, (7) 157*b*.
of heavy clay products, I, II, (11) 257*h*.
injection oil, for brick kilns, (2) 43*g*.
of multicomponent glasses, calculation of optimum temperature by use of orthogonal array, (11) 253*i*.
oil, burners for obtaining efficient combustion, (9) 217*a*.
in ceramic and glass industries, (9) 217*f*.
of ceramics, automatic control, (5) 120*a*.
operation of Brulax system, (5) 120*c*.
Firing (*continued*)
progress and output, relation to setting in continuous kilns, (8) 190*e*.
reducing conditions, effect on refractory brick, (11) 258*c*.
of refractories, development of bond strength during, (6) 138*a*.
of sewer pipe, P (4) 88*b*.
of silica refractories, effect of duration and temperature on properties, (6) 138*f*.
single, of glazed porous body, P (5) 115*i*.
temperature, effect on rate of flow of aluminous refractory products at high temperatures, (3) 60*i*.
of zirconia refractories, experiments, (11) 258*c*.
Flame photometry. See *Photometry; Spectrophotometry*.
Flames. See also *Burners; Firing*.
coating process, method and applications, (4) 83*j*.
control of characteristics by Wobbe index value, (6) 145*b*.
stabilization, with inclined air jets, (3) 69*c*.
in turbulent premixed gas streams, optical study, (10) 240*e*.
Floors, construction, Stahlton system, I–VI, (2) 35*b*.
finishes, for factories, (1) 22*f*.
Flotation. See also *Beneficiation*.
for classifying minerals, P (6) 146*h*.
for improving clay brightness, P (6) 146*j*.
index for 1958, B (5) 130*d*.
process, for fluorspar at Johannesburg, (10) 241*a*.
for separation of fine sized solids, P (11) 269*i*.
for separation of lightweight aggregate, P (8) 198*g*.
of silicates from titaniferous iron ores, P (2) 45*g*.
Flow, of aluminous refractory products at high temperatures, (3) 60*i*.
fluid, solving problems in, (4) 101*c*.
of gas in furnace, fundamental studies by model experiments using liquids, (5) 120*f*.
glass, and heat, for forced working of glass tanks, (8) 188*a*.
in glass tanks, due to temperature gradients, (11) 253*d*.
of liquid hydrocarbons in porous Vycor, (7) 173*f*.
of MgO single crystals, (10) 244*e*.
of matter, in introduction to rheology, B (11) 273*g*.
of matter, theories, (9) 219*b*.
properties, of Egyptian raw materials, (5) 120*i*.
viscous, of disperse suspensions in tubes, B (6) 152*j*.
viscous, of silicate slags, (1) 9*f*.
Flue gases. See *Gases*.
Fluidity, of aqueous mineral slurries, method of increasing, P (2) 29*c*.
change, in oxide powders during heating, (7) 169*j*.
of resins for injection molding, factors affecting, (11) 268*h*.
Fluids. See also *Liquids*.
analysis, spectrochemical and structural, by X rays, P (3) 79*g*.
collector for removing minerals from, P (8) 199*a*.
corrosive, glass needle valve for precision metering of, P (7) 158*i*.
magnetized, for separation of particles, P (2) 42*b*.
Fluoramphiboles, synthesis of, (3) 78*f*.
synthetic, impact-resistant ceramics from, P (11) 262*e*.
Fluorescence, analysis. See *Analysis*.
Fluorescent materials, penetrant inspection, P (5) 129*d*.
in phosphor for scintillation counter, P (11) 255*d*.
Fluorides. See also *Glass*.
addition to Na phosphates, (6) 135*e*.
effect of infrared transmittance of silicate glasses, (1) 4*e*.
highest of rare elements, synthesis by halogen fluorides, (11) 272*h*.
metal, preparation, P (1) 10*c*.
molten, as nuclear reactor fuel, P (5) 114*a*.
ternary, structure classification, (5) 128*c*.
Fluorine, complex compounds, in dielectric materials, P (2) 40*b*.
compounds, phosphorus-free, P (11) 269*e*.
determination by d.c. arc excitation, (7) 179*g*.
effect on heating alkali-free glass batches, (9) 206*h*.
in thermal oxidation processes for forming insulating coatings on Cu and Al, (1) 3*g*.
Fluorspar, effect on reaction of cement raw meals below 1100°C., (6) 132*h*.
in South Africa, production and uses, (10) 241*a*.
Fluxes, fluorine-free, from Isle of Man, historical and technical, (7) 166*j*.
metallurgical, briquette for, P (7) 161*a*.
for porcelains, glazes, and enamels, Li minerals as, (6) 145*j*.
synthetic ceramic, attempts to produce, (6) 145*i*.
welding. See *Welding*.
Fly ash. See *Ash*.
Foaming, of silicate melts, (3) 60*j*.
Forming, of ceramic products, rational technique for use of steam in, (5) 118*g*.
of clay products, methods and machinery, B (1) 25*j*.
high temperature, glass lubricants as aid in, (11) 253*j*.
Forsterite. See also *Refractories*.
ceramic, with thermal expansion same as Ti, (9) 213*j*.
ceramic body, within SiO_2–MgO–Al_2O_3 system, P (5) 117*j*.
clinker, production in rotary kiln, (6) 139*d*.
in metallizing material for ceramics, P (1) 13*i*.
products, effect of gaseous atmospheres during firing, (10) 232*i*.
silica-rich, reaction products in, (8) 193*i*.
Foshagite, composition, unit cell, and dehydration, (3) 74*h*.
crystal structure of, (8) 200*b*.
Fractionation. See *Separation*.
Fracture, atomic mechanisms of, B (6) 151*d*.
in solids, as result of microscopic cracks, (9) 220*b*.
Freezing and thawing, of concrete, effect of air voids on, (1) 2*j*.
resistance, of air-entrained concrete made with Portland blast-furnace slag cement, (2) 28*f*.
tests. See *Frost resistance*.
Friction, coefficient, of boundary devices in glass tanks, (10) 228*j*.
dependence on surface roughness, (2) 27*e*.
device, P (11) 260*i*.
internal, of *AT*-cut quartz, (2) 46*f*.
of crystalline quartz, anisotropic relaxation peak in, (10) 243*d*.
in hausmannite, (10) 243*c*.
in synthetic quartz, (10) 244*e*.
lining, for clutch or brake, P (10) 235*b*.
materials, for brakes and clutches, P (2) 37*e*.
member, for brakes, clutches, etc., sintered compositions, P (4) 89*i*.
Frits, alkali metal-bismuth borosilicate, P (10) 236*i*.
colored, for addition to flint glass in feeder, P (6) 136*j*.
composition for pink enamel, P (5) 108*g*.
deeply colored concentrate, P (6) 134*a*.
enamel, boric, in Chinese plants, (8) 186*j*.
colorimetric determination of boron in, (4) 83*h*.
compositions, (8) 186*i*.
ground coat, viscosity measurements of, (4) 84*e*.
for iron or steel, P (8) 187*f*.
nontoxic for Al, P (5) 109*b*.
quality control testing of, (1) 3*g*.
Na borosilicate, kinetics of fusion reactions with powdered metals, (6) 134*a*.
of ZnO, Co_3O_4, and SiO_2, P (4) 84*b*.
glass, colored, feeder for, P (7) 158*c*.
glass making, composition, P (6) 136*e*.
glaze, Cu-red color in, I–VI, (9) 212*g*.
for self-opacified glazes, P (5) 116*b*.
self-opacifying alkali boroaluminosilicate, P (8) 194*d*.
Frost resistance, of brick, experiments, (7) 159*j*.
of roofing tile, (6) 137*j*.
testing by physical measurements, (5) 112*i*.
Fuel. See also *Ash, fly; Coal; Coke; Combustion; Gases; Oil*.
and air, proportioning device, P (8) 198*a*.
burner and igniter apparatus, P (8) 198*a*.
economy, effect on automation of limekiln, (10) 226*f*.
elements, high-density UO_2, for nuclear reactors, (1) 8*j*.
method of disintegration, P (1) 10*a*.
nuclear, data book on physical and engineering properties, B (5) 129*i*.
for nuclear reactor, P (1) 10*b*.
wire, method of making, P (11) 252*g*.
for firing clay ware, calculation of amount needed, B (1) 25*j*.
fluid, for high-temperature reactors, study of systems UF_4–ThF_4 and LiF–UF_4–ThF_4, (5) 126*d*.
liquid, combustion apparatus and production of controlled gaseous effluents from, P (7) 166*f*.
nuclear, from Al_2O_3-clad UO_2 ceramics, (9) 210*g*.
reactor, molten fluoride as, P (5) 114*a*.
technology and manufacturing procedures, B (10) 247*h*.
oil, economics of, (3) 69*b*.
progress in nuclear energy, B (5) 130*j*.
resources, 1960, (11) 263*i*.
for wet process rotary cement kiln, thermal efficiency of, (9) 204*g*.
Fuller's earth, production in 1958, (5) 120*i*.
Fumes, control, (1) 22*d*.
disposal methods, (6) 149*g*.
Furnaces. See also *Burners; Fuel; Glassmaking apparatus and equipment; Kilns; Ovens; Refractories*.
arc, mechanical rectifier for, P (7) 166*d*.
arc, zirconia-silica bricks for roofs in, (3) 61*i*.
arc-melting, skull type, for Ti, I, II, (1) 16*d*.
atmospheres. See *Atmospheres*.
blast, carbon brick for lining, (4) 88*d*.
blast, Saugus of 1650, refractories in, (9) 211*j*.
carbon arc image, for high temperature studies, (4) 96*h*.
car bottomed, P (8) 197*i*.
cement, P (11) 251*j*.
conditions, effect on wastage of ware during firing, (11) 259*g*.
cross stream shaft, process and apparatus for heating, P (11) 252*c*.
cupola, for manufacture of mineral and glass fibers, by blast technique, (11) 264*h*.
cylindrical, P (4) 97*i*.
for determining creep of ceramics, (7) 178*j*.
electric, arc, electrode attaching device, P (1) 16*e*.
arc, exhaust hoods for, P (8) 198*b*.
arc resistance, for melting refractory materials, P (11) 267*g*.
comparison of methods of temperature measurement, (6) 145*d*.
control for, P (7) 158*i*.
device for automatic firing, (6) 145*b*.
electrode installation for, P (3) 69*g*.
protection of C electrodes for, P (11) 261*a*.
smelting, electrode holder for, P (4) 98*a*.
tubular, for centrifuge for molten systems to 500°, (4) 96*g*.
enameling, for Al, (1) 3*j*.
gold lining for, (10) 226*g*.

Furnaces, enameling (*Continued*)
instrument for establishing temperature gradients in, (2) 30*c*.
types, operation, and maintenance, (8) 187*d*.
U-type center wall muffle, P (7) 166*g*.
filament, for high temperature microscopy studies, (2) 42*j*.
forge, refractory brickwork in, (11) 259*e*.
gas flow in, fundamental studies by model experiments using liquids, (5) 120*f*.
for glass feeding and conditioning, P (10) 230*f*.
glassmelting, apparatus for blanket charging batch in, P (3) 57*e*, *f*.
all-electric, for precise composition control, (8) 187*i*.
belt alloys, effect of higher annealing temperatures, (9) 206*j*.
blanket charging of batch in, P (4) 87*d*,*e*.
with bubbler patterns, P (4) 86*d*.
changes for operation without debiteuses, (3) 57*f*.
continuous, natural gas firing, (7) 157*b*.
continuous tank method of changing batch composition, P (2) 34*e*.
controlling electric currents in forehearth of, P (5) 112*e*.
electric, graphite electrodes in, (6) 135*c*.
electric, neutralizing current in glass drawn from, P (8) 189*f*.
electrode for, P (3) 58*c*.
formula for calculation of output, (10) 227*h*.
heat transfer between batch and flame region, (6) 134*g*.
increasing tank efficiency by sealing regenerator and recuperative system, (10) 228*g*.
with large capacity and decreased fuel consumption, P (1) 6*e*.
Mo in electrodes for, (7) 157*e*.
natural gas, sizes of regenerators for, (8) 197*e*.
oil firing of, (3) 69*b*.
oxidation shield for electrodes, P (8) 190*a*.
pot, developments in construction and operation, (5) 110*i*.
for sheet glass, increase in production, quality, and furnace life, (9) 208*c*.
Siemens, history of, (10) 227*i*.
use of a.-c. flow, P (1) 6*d*.
use of pitch for carburation of generator gas in, (1) 5*j*.
glassmelting tank, advantages of recuperative, (3) 57*g*.
behavior of and effect on glassmelting rates, (5) 109*g*.
brick recuperators for, (3) 69*g*.
coefficient of friction of boundary devices in, (10) 228*j*.
comparative tracer tests of flow in, (11) 253*d*.
construction, P (9) 209*g*.
continuous, service of refractories in melting technical glass in, (9) 211*f*.
effect of aspect ratio and viscosity gradients on flow through, (3) 56*h*.
effect of barrier on heat balance of cooling part, (8) 188*a*.
electric, occurrence of bubbles and flames in, (5) 110*f*.
high efficiency, (8) 188*c*.
open-hearth Dinas brick for crown of, (8) 188*h*.
refractory materials for, B (8) 202*i*.
requirements for blocks, (6) 140*e*.
study of turbulence by use of model, (10) 228*c*.
survey of refractories used in, (6) 140*f*.
three-dimensional flow of throat current, model experiments, (3) 57*b*.
for heating elongate metal work, P (8) 197*g*.
high temperature, P (4) 98*b*; P (10) 240*j*.
protection of refractory lining during shutdown, P (4) 89*e*.
for purification of carbonaceous bodies in halogen-containing gases, P (4) 89*j*.
induction, new refractory for use in, (11) 258*i*.
internally wound Pt–Rh, for use in air to 1900°C., (7) 166*d*.
linings. See *Refractories*.
for making synthetic mica, P (6) 146*b*.
metallurgical, grogless brick tested in walls of, (10) 232*e*.
oil, pressure control for, (4) 97*e*.
oil-burning, effect of design and operation on brickwork temperature, (3) 60*d*.
open-hearth, basic arch for, P (8) 192*j*.
casting of large sections of basic refractories for bottoms, (11) 258*f*.
construction, P (8) 192*a*.
direct measurement of total heat in, (2) 42*i*.
durability of sintered bottoms, radioactive isotope study, (3) 69*c*.
effect of temperature and heating time on adhesion of dolomite to sintered hearth, (1) 8*f*.
study of used refractories, VII, VIII, (11) 259*a*.
trial use of fused-cast zircon-mullite refractories, in caissons, (9) 212*a*.
pusher type, vibratory conveyer sand seals for, P (5) 120*g*.
radiant, quartz pencil lamps for attaining 3000°F. in 3 min., (4) 97*j*.
radiant wall, P (4) 89*i*.
recirculating, refining, P (11) 256*i*.
refractories for. See *Refractories*.
regenerators, sectionalized, for heat economy, (8) 197*e*.
roofs. See *Refractories*.
rotary, reduction of high temperature of lining, P (3) 62*a*.
shaft, charging apparatus, P (1) 16*c*.
solar, heliostat for, (1) 15*j*.
Furnaces, solar (*continued*)
heliostat-type for automatic sun tracking, (1) 15*h*.
measurement of apparent temperatures at melting points of metal oxides in, (2) 46*c*.
steel-melting induction, basic lining, (10) 233*j*.
support for setting plate on car, P (10) 240*j*.
for thermal differential testing of materials, P (11) 267*i*.
for treatment of glass sheets, P (5) 111*e*.
tube, for firing Fainshtein, service of fire-clay refractory in, (8) 192*c*.
ultra-high-temperature, P (4) 98*c*.
vacuum, for high temperature X-ray diffractometry, (8) 197*f*.
vacuum arc, P (4) 98*d*.
wall, of varying thermal diffusivity, heat conduction analysis, (5) 120*a*.
Fusibility, of enamels, determination by shadow method, (8) 186*h*.
Fusion, flame, growth of single crystals of yttrium iron garnet by, (2) 46*i*.
method, for determination of plagioclase feldspar from thin section, (3) 77*f*.

Gadolinium, ferrite, piezoelectricity and ferromagnetism of, (9) 214*a*.
Gallium, chloride, incorporation in graphite, (5) 125*h*.
nitride, preparation by wire growth method, (5) 126*c*.
Gamma rays, for control of cement clinker depth, (7) 154*h*.
testing apparatus, P (7) 166*a*.
Garnets, (6) 145*b*.
Al and Ga, paramagnetic resonance of Yb^{3+} in, (10) 237*d*.
andradite-spessartite, from Sweden, (3) 72*j*.
effect of pressure on spectra, (7) 172*e*.
electric and magnetic properties, (1) 13*d*.
ferrimagnetism in, (2) 39*f*.
Ga iron, magnetostriction, (10) 237*c*.
magnetic, resonance measurements in, (9) 214*h*.
magnetic interactions and ion distribution in, (10) 237*b*.
magnetizable, single crystal inductor core, P (9) 215*a*.
method of making, P (10) 241*e*.
rare-earth, ferrimagnetic, study of relaxation process by modulation technique, (1) 12*h*.
rare-earth iron, absorption and reflectivity measurements, (10) 237*a*.
rare-earth iron and YIG, specific heat at low temperatures, (10) 237*i*.
silicate, –yttrium-iron garnet, solid solutions, (7) 178*h*.
Y-Ga iron, initial permeability measurements, (10) 237*j*.
yttrium iron, ferrimagnetic resonance in, (4) 92*i*.
growth of single crystals by flame fusion, (2) 46*i*.
magnetic annealing of, (1) 12*c*.
polycrystalline, temperature-dependent lag in, (1) 13*i*.
properties, and dislocations in crystals, (1) 13*g*.
Sa substitutions in, (10) 237*g*.
surface-independent spin-wave relaxation in ferromagnetic resonance, (1) 13*g*.
and yttrium-gallium, improved method for growth, (10) 237*i*.
Garnierite, study of tubular primary crystals of, (5) 123*c*.
Gases, adsorption by silica glass, measurement of expansion from, (3) 56*j*.
and air, in combustion system, proportional mixer for, P (3) 69*i*.
analysis, miniature crucible for, P (8) 192*e*.
analysis, spectrochemical and structural, by X rays, P (3) 79*g*.
analyzer, continuous, P (7) 165*j*.
analyzer, selective infrared, P (8) 197*c*.
blenders, for heating zone of tunnel kilns, (8) 197*f*.
CO_2, reaction with mortar, (9) 204*f*.
cleaning, with electrostatically charged particles, P (7) 164*j*.
cleaning, by electrostatic precipitator, P (11) 265*a*.
collection of dust particles from by means of aspirated sampling nozzle, (9) 219*g*.
in coloring of Cu-red glaze, (9) 212*j*.
combustion, of coal, reaction of CaO and SO_2 in, (7) 154*e*.
continuous analysis as control factor, (5) 120*c*.
within moving mixture, (2) 43*i*.
Thermocatalytic Combustion System, (7) 160*e*.
for cooling hot materials, P (3) 69*h*.
determination of calorific value of, (6) 148*i*.
drying, synthetic zeolites in, (6) 148*i*.
evolution from glass, from electron bombardment, (7) 157*d*.
filling, of electric lamps, P (2) 33*b*.
flow, in furnace, fundamental studies by model experiments using liquids, (5) 120*f*.
flue, of drum driers, electrofilters for purifying, (3) 67*e*.
furnace, apparatus for measuring carbon level, P (9) 217*d*.
generator, in glassmelting furnaces, use of pitch for carburation of, (1) 5*j*.
in glass, (6) 134*f*.
hot, containing suspended TiO_2 particles, cooling process, P (5) 122*h*.
hot dust-laden, apparatus for analysis, P (1) 16*a*.
humidity of, apparatus for measuring, P (8) 197*b*.
jets, in stabilization of flames, (3) 69*c*.
kiln, cooling of, P (4) 97*g*.
natural, as fuel for refractories and ceramics industries, (8) 197*j*.
oxygen analysis in, P (10) 246*a*.
Gases, (*continued*)
pressures, causing crushing of glass receiving tubes, (4) 84*h*.
removal of impurities, P (7) 165*e*.
separation of dust from, P (7) 166*e*.
spectroscopic analysis, light source for, P (10) 246*c*.
S determination in by microanalysis, (9) 220*i*.
sulfur dioxide, as addition to molten glass for making fibers, P (6) 136*j*.
thermal decomposition, carbon deposits from, (3) 69*a*.
total absorptivities, verification of theoretical relations to total gas emissivities for CO, (7) 173*d*.
transport mechanism in, B (11) 274*d*.
turbulent premixed, optical study of flames in, (10) 240*e*.
waste, recovery of cryolite from, P (8) 199*b*.
Gauges, blast velocity, $BaTiO_3$, P (4) 93*j*.
for comparing and calibrating fluid delivery time of tapered delivery nozzle of tubular workpiece, P (7) 158*b*.
radiometric, for high-vacuum measurements, (1) 15*a*.
Gelation, of products obtained in metathesis of Na silicate with chlorides of iron and chromium, (5) 128*d*.
of silicic acid and products obtained in metathesis of Na silicate and chlorides of Fe and Cr, (5) 128*e*.
time, relation to concentration of silicic acid, iron, and chromium silicates, (5) 127*i*.
Gels. See *Alumina; Colloids; Silica*.
Gems, (6) 145*g*, 146*b*.
and allied materials, B (6) 150*e*.
cat's-eye, synthetic quartz, P (11) 256*b*.
Generators, gas, high temperature, burner structure for, P (10) 240*g*.
Geochemistry, of illite, separation from sample, P (11) 273*a*.
of natural and synthetic analcites, (3) 74*j*.
of Nb and Ta in massifs of Russian nepheline syenite, (3) 70*i*.
Geology, of fire clays, (2) 44*f*.
formations, X-ray analysis, P (6) 149*e*.
of Illinois light-burning clays, (8) 198*h*.
of Oligocene clays of Le Puy-en-Velay basin, (4) 93*i*.
zigzag nature of type I and type IV curves, (7) 181*i*.
Germanis. See *Germanium, dioxide*.
Germanium, dioxide, adsorption studies, (5) 125*j*.
neutron specific color center in, (4) 85*e*.
pressure-temperature diagram, (7) 169*b*.
oxide, with Al, thermoluminescence of, (9) 208*c*.
single crystals, high purity, production under high vacuum, (11) 271*d*.
theory of dislocation in, (6) 142*d*.
translators, manufacture of, P (9) 214*d*.
Getters, for electron discharge device, P (2) 40*f*.
materials and use, B (7) 183*c*.
Gibbsite, dehydration, (7) 171*a*.
partial, (9) 220*h*.
study by dynamic differential calorimetry, (5) 128*i*.
infrared absorption spectrum of, (10) 244*b*.
in Spanish bauxites, (1) 17*d*.
Gillespite, leached, structure of, (4) 102*d*.
Glascote 778, for steel, corrosion-resistant, (7) 155*g*.
Glass. See also *Furnaces; Glass industry; Glass-making apparatus and equipment*.
abraded, strength and static fatigue of, I, II, (1) 5*h*, *j*; III, (4) 85*a*.
absorption bands of Cr^{3+} ions in, (6) 134*d*.
absorptive, controlled shades, P (4) 85*i*.
acid-base properties, oxygen electrode for measuring, (11) 253*c*.
acid-base relation, new concept, (11) 253*b*.
acid-etched rods, (11) 254*j*.
adhesion, atomistic approach, (11) 253*j*.
of metal films to, (10) 227*e*.
to polymers, (9) 206*i*.
adsorption, effect of pretreatment and transition processes, (5) 109*j*.
adsorption, of water vapor in vacuum, (5) 109*c*.
alkali-alkaline earth-silica, color centers in, (3) 56*d*.
alkali-free, effect of F on batch heating, (9) 206*h*.
alkali-lime-MgO-SiO_2, relation of devitrification to thermal history, (9) 206*f*.
alkali metal silicate, with submicroscopic particles of Cu and Ag in surface for forming photograph, P (4) 87*d*.
alkali silicate binary, structural and thermal expansions in, (2) 32*b*.
aluminosilicate, effect of composition on structure, (8) 200*b*.
aluminosilicate, electrical conduction in, (2) 31*e*.
ampoules, P (3) 59*g*.
analysis, for H_2O and OH, (10) 227*i*.
analysis, methods, (1) 5*e*.
ancient, studies in, VI, (6) 132*c*.
annealing, automation of furnaces, (3) 57*a*.
of containers by radiant heat, (8) 187*i*.
effect of higher temperatures on lehr belt alloys, (9) 206*j*.
rational cycle for parts, (6) 135*c*.
antimonate, for infrared-transmitting windows, (8) 187*j*.
antimony oxide, composition, P (5) 111*c*.
apparatus, for specialized laboratories, facilities for making, (9) 207*c*.
in aqueous systems, strength impairment mechanism of, (4) 85*j*.
argon absorption by, (1) 4*d*.
arsenic in, estimation by polarography, (9) 206*g*.
articles, hollow, forming of, P (7) 159*f*; P (8) 189*e*.

Glass (*continued*)
articles, irregularly shaped, shipping container for, P (6) 137*c*.
atomic structure of, (10) 229*c*.
attack, resistance of Bakor blocks, (6) 139*g*.
automobile, manufacture by softening method, (1) 5*d*.
bangles, copper red, composition, (5) 109*e*.
barium, etching of, P (2) 33*b*.
barium, rubidium in, (9) 208*f*.
batch, granulation of, advantages, (9) 207*h*.
batch, in production of homogeneous glass, (5) 109*f*.
beads, transparent weather-resistant, composition, P (10) 230*j*.
-bonded mica, (6) 142*i*.
borate, infrared transmission measurements in relation to structure, (1) 5*a*.
borate-phosphate, effect of TiO_2 and CaO on physical properties, (2) 31*b*.
B_2O_3-H_2O, nuclear magnetic resonance in, (10) 228*c*.
boric acid in, determination of, (4) 84*i*.
boron oxide, containing water, structure of, (7) 179*f*.
vibrational spectra, (7) 157*f*.
-water, structure of, (8) 188*d*.
borosilicate, analysis of B in by neutron transmission, (6) 134*f*.
analysis methods, (1) 5*e*.
in bond for abrasive grain, P (4) 81*g*.
density changes caused by heating, (4) 84*j*.
effect of electron bombardment on elasticity and mechanical damping, (9) 206*a*.
effect of electron bombardment on properties, (9) 206*d*.
effect of water content on corrosion of, (8) 188*c*.
Kohlrausch flask from, (9) 218*i*.
study of internal structure by electron microscopy, (1) 4*g*.
vibration grinding of sand for use in, (6) 135*f*.
bottles. See *Glass, containers*.
breaks. See *Glass, fractures*.
bubbles, elimination, P (2) 33*f*.
bubbles, occurrence in electrically heated model glass tanks, (5) 110*f*.
building block unit, P (8) 189*h*.
bulb, coated, P (11) 255*j*.
bulb, factors affecting heat generated when broken in water, (9) 219*b*.
Bunsen burners of, (11) 253*c*.
cabal, infrared transmission measurements in relation to structure, (1) 5*a*.
cane, gauging and sorting apparatus, P (2) 33*a*.
carbon-yellow, sulfides as cause, (5) 109*h*.
"cellular structure," (3) 57*a*.
changes from mechanical stress, temperature, and optical phenomena, calculation of time required to regain normal state, (10) 229*b*.
chemical composition, relation to light transmission, (5) 109*f*.
chemical stability, compositions for increasing, (3) 56*d*.
chips, apparatus for crushing on glass sheet, P (4) 85*j*.
chips, apparatus for removal from glass sheet, P (4) 87*b*.
Co-containing, magnetochemical and X-ray analysis, (7) 157*j*.
collection, London, (3) 52*g*.
color, development of, (10) 227*h*.
γ-ray induced, kinetics of, (9) 207*g*.
imparted by transition elements, (6) 147*i*.
standards, for sugar products, (5) 110*h*.
colorant composition, P (6) 134*a*.
colorants, effect on viscosity and surface tension, (10) 228*c*.
coloration, by sulfides, (5) 109*h*.
colored, manufacture by addition of colorant in feeder, P (6) 136*j*.
colored enamels for, preparation and application, (9) 205*d*.
component, for electrical apparatus, P (7) 158*c*.
composition, P (2) 33*e,f*; P (3) 58*i*; P (6) 136*c*; P (11) 255*f*.
effect on thermal conductivity, (11) 254*i*.
for fibrous glass, P (3) 58*h*.
for glass-to-metal seal, P (11) 255*b*; P (11) 255*f*.
method of changing in continuous tank, P (2) 34*e*.
method of treatment, P (6) 142*a*.
for neutral gray colored heat absorbing glass, P (10) 230*h*.
precise control with all-electric melting, (8) 187*i*.
for sealing, P (8) 189*j*.
tan to brown opaque, P (2) 33*g*.
-concrete, heating panels, (10) 228*b*.
conductive, for pH measurement, (1) 5*g*.
container, commercial quality, production operations, B (9) 222*g*.
container, in 1958, (8) 188*d*.
containers, aerosol, reinforced, P (5) 112*e*; P (11) 257*b*.
annealing by radiant heat, (8) 187*i*.
automatic inspection, P (2) 32*b*.
construction, P (5) 111*g*.
effect of capacity on durability, (5) 110*c*.
handling mechanism, P (7) 158*d*.
in Indian fruit preservation industry, (5) 110*i*.
inspection apparatus, P (1) 6*i*.
irregularly shaped, apparatus for arranging, P (7) 157*h*.
pharmaceutical, quality and testing, (1) 5*b*.
ribbed supports for base, P (9) 209*g*.
surfaces, treatment of, P (7) 159*b*.
technical progress in, (9) 208*b*.
treatment of interiors, P (11) 255*d*; P (11) 256*g*.

Glass-containers (*Continued*)
tubular, P (3) 59*g*.
convection currents, developed by boundary devices, determination of friction from, (10) 228*j*.
convection currents, study by model technique, (10) 227*j*.
copper red, composition for bangles, (5) 109*e*.
copper ruby, history of, (8) 185*i*.
cords, I–IV, (11) 253*e*.
effect of melting pot on formation, (5) 110*d*.
identification and study of, B (9) 224*c*.
crystal, quality improvement, (11) 254*c*.
crystal growth rate, maximum linear, relation to microhardness, (10) 229*b*.
crystallization, (1) 5*c*.
for curtain walls, B (4) 103*d*.
darkening, from γ-irradiation, (10) 228*a*.
decolorization, spectrophotometric and magnetic measurements, (5) 110*j*.
decoration of. See *Decoration*.
defects, causes in optical and technical glasses, (9) 207*a*.
causes and techniques for studying, B (9) 224*c*.
dislocation type, (5) 110*a*.
ream, in flat glass, (9) 208*e*.
definition of, new, (6) 135*b*.
density, calculation of change due to temperature, (10) 227*i*.
deposition of metallic coatings on, I, VIII, (8) 187*i*.
determination of alkali metals in, by flame photometer, (2) 31*k*.
determination of potash in, (1) 4*i*.
devitrification, relation to thermal history, (9) 206*f*.
devitrification, temperature dependence of growth processes in, (3) 57*b*.
differentiation of H_2O molecules and OH groups, (10) 227*i*.
discoloration, decrease by partial electrolysis, P (4) 86*j*.
disk, nonuniform toughening, (7) 157*c*.
for dosimeters, high-level γ-radiation, (9) 207*f*.
drawing, vertical, of colored plate, (6) 135*f*.
effect of radiation on, (5) 109*f*.
elastic constant of, apparatus for determining, (1) 14*j*.
electrically conducting, P (5) 111*k*.
with suboxides of Ti, P (8) 189*c*.
with SnO_2 layer, (7) 156*b*.
transparent, P (11) 256*c*.
from electric furnace, neutralizing current in, P (8) 189*f*.
electrodes. See *Electrodes*.
electronic, in 1958, (8) 188*d*.
for electron tubes, B (7) 183*c*.
Erlenmeyer flask, design for, P (11) 250*f*.
factory practice, relation to cords, (11) 253*e*.
feldspar, viscosity of, (8) 200*e*.
fibers. See also *Mineral wool*.
black soda glass, Young's modulus of, (10) 229*i*.
coated, P (4) 87*g*.
coated refractory, P (10) 231*a*.
coating with aqueous emulsions of metals and alloys, P (3) 59*f*.
coatings for, P (3) 59*d*.
colored, P (8) 189*a*.
composition, P (3) 58*h*.
curly, making of, P (7) 158*a*.
deterioration mechanism, (4) 85*j*.
dispersions, P (3) 58*j*.
evacuated mats, for flat-panel thermal insulation, (7) 156*i*.
filaments, coating method, P (4) 87*a*.
filaments, coating with silver, P (2) 34*b*.
filaments, flexible metal-coated, P (10) 230*d*.
filaments, metal coating, P (8) 190*c*.
filaments, metalizing apparatus, P (4) 86*b*.
formation of rods from, P (5) 111*d*.
forming, P (8) 189*h*.
forming and treating, P (4) 87*h*.
insulation products, high temperature, P (10) 230*b*.
in making of glass paper, P (5) 112*a*.
manufacture by blast technique, (11) 264*h*.
mats, electrically conductive indium coating for, P (3) 66*e*.
metal-coated, heat-treatment of, P (2) 33*c*.
with metal coatings, P (7) 159*a*.
method for attenuating and coating, P (5) 112*h*.
method of producing, P (10) 230*j*.
in 1958, (8) 188*d*.
production, P (6) 136*j*; P (7) 158*h*.
refractory metal oxide coating for high temperature resistance, P (3) 58*d*.
in resin, for forming solid structural members, P (10) 230*a*.
silicate, measurement of optical anisotropy on, (10) 227*f*.
spinning from aqueous dispersion, P (3) 59*a*.
strength of, (4) 85*i*; (5) 111*e*.
structure as shown by small-angle scattering of X rays, (10) 245*f*.
technical progress in, (9) 208*b*.
tightly wound, dye composition for, P (2) 32*i*.
with Ti ester coating, P (10) 231*c*.
treatment with zirconyl carbonate, P (8) 189*a*.
in vertical electrode rods, P (1) 6*h*.
woven, as core for metal casting, P (3) 58*f*.
fibrous strand, method of crimping, P (4) 87*h*.
filters. See *Filters*.
flasks, tissue culture, method of making, P (11) 256*c*.
flat. See also *Glass: plate, sheet, window*.
causes of ream in, (9) 208*e*.
improvement of, B (2) 50*i*.
indentation strength, (3) 56*e*.
in 1958, (8) 188*d*.
technical progress in, (9) 208*b*.

Glass (*continued*)
flint, chemical studies of polished surface, (10) 229*f*.
flow, factors affecting, (2) 31*a*.
three-dimensional, of throat current, (3) 57*b*.
through open channels, effect of aspect ratio and viscosity gradients, (3) 56*h*.
fluoborate, composition, P (8) 189*e*.
fluoride, structure of, II–IV, (5) 111*f*.
foam, wastes, use as addition to foam glass batch, (6) 134*i*.
foil, apparatus for producing, P (4) 86*b*.
formation, (1) 5*c*.
limits of, (1) 5*c*.
mechanism of, (6) 134*j*.
in polymers, II, (7) 173*a*.
study of conditions of, (11) 254*b*.
temperature, in feldspathic porcelain, (10) 236*a*.
-forming substances, measurement of vapor pressure and volatilization rate, (9) 208*a*.
fractures, Griffith criterion for, B (6) 151*d*.
fragments, from Lucas 700 headlamp, identification from physical properties, (4) 85*c*.
frit, P (6) 136*c*.
gases in, (6) 134*f*.
gas evolution from, electron bombardment as cause of, (7) 157*d*.
GeO_2, with Al, thermoluminescence of, (9) 208*c*.
glazing units, multiple sheet, method of making, P (6) 136*e*.
Graham's, devitrification of, (7) 156*g*.
gray, heat absorbing, composition, P (10) 230*h*.
grinding of. See *Grinding and polishing*.
ground, instruments for controlling surface quality, (3) 57*c*.
high dielectric constant, P (3) 58*c*.
high temperature heat content, continuous measurement, (11) 254*f*.
homogeneous, batching procedures for obtaining, (5) 109*f*.
homogenizer, P (3) 58*a*.
hydrophobicity, relation to adsorbed oxygen, (10) 229*h*.
hydrophobization, use of methyl coatings for, (10) 228*f*.
inclusions, qualitative and quantitative chemical analysis of, (10) 228*i*.
indentation strength, (3) 56*e*.
industrial uses and functions, English course in, (4) 82*a*.
infrared transmissive, evaluation of, (9) 206*i*.
inorganic, kinetics of devitrification of, (7) 156*g*.
insulating bushing, for electrical apparatus, P (7) 158*e*.
interaction with atomic hydrogen, (7) 156*f*.
ion exchange, composition and use, P (10) 230*c*.
irdomes, antimonate glass for, (8) 187*j*.
iron in, paramagnetic resonance of, (10) 228*b*.
iron-containing, low temperature magnetic study, (3) 56*j*.
irradiated, fading formula for, (7) 156*g*.
ivory opalescent, P (2) 33*d*.
Jena standard, calculation of changes in density and viscosity caused by temperature, (10) 227*i*.
laminated, method for pressing, P (11) 256*e*.
lamps, capless electric, P (9) 209*c*.
coating for, P (5) 111*f*.
electric incandescent, decontamination of interior, P (9) 209*b*.
high pressure mercury vapor, P (5) 112*b*.
manufacture, P (4) 87*j*; P (11) 256*c*.
tubular, P (4) 87*j*.
lead, effect of electron bombardment on properties, (9) 206*d*.
high-, borosilicate, viscosity of, (11) 254*b*.
polarographic estimation, (4) 84*j*.
producing opaque reticle design on, P (6) 136*i*.
rubidium in, (9) 208*f*.
lead borate, γ-ray induced absorption in, (9) 207*b*.
lead borosilicate, adsorption of water vapor in vacuum, (5) 109*d*.
Pb-containing silicate, effect of electron bombardment on elasticity and mechanical damping, (9) 206*a*.
lead silicate, γ-irradiation of, (10) 228*a*.
lens, Luneberg, method of making, P (10) 230*i*.
lens, ultrasonic surface generating machine, P (10) 231*c*.
for light filters, alkaline oxides in, (8) 188*d*.
lithia-free, for sealing directly to Mo and Fe-Ni-Co alloys, P (9) 209*f*.
low-melting, for improving semiconductor surfaces, (7) 163*c*.
low-melting, in systems As–Tl–S, As–Tl–Se, and As–Se–S, formation and properties, (6) 134*j*.
lubricants, as aid in high temperature forming, (11) 253*j*.
MacInnes, alterations for use in pH electrodes, (1) 5*g*.
making, of container glass, B (9) 222*g*.
history of, B (9) 224*a*.
technical defects, B (9) 224*c*.
Mn, magnetic and spectrophotometric studies, (5) 110*j*.
Mn-V-Fe, for radiation dosimeters, (9) 208*b*.
manufacture, dry compressed air in, (9) 206*h*.
manufacture, problems of, (10) 228*e*.
material properties, B (1) 23*f*.
materials available for manufacture in British Guiana, (5) 121*d*.
mechanical piercing method, III, (5) 118*e*.
mechanicoacoustic properties, relation to fine structure, (9) 208*f*.
melt, addition of Na_2O and B_2O_3 as sodium polyborate, P (8) 189*b*.
apparatus for technical control, (3) 56*c*.
between Na_2SiO_3 and $Na_2Si_2O_5$, structural models for, (1) 4*e*.

Glass (*continued*)
melting, all-electric, (8) 187*i*.
effect of tank furnaces on rate of, (5) 109*g*.
method, P (7) 159*d*.
pot, evaluation by cords and stones formed, (5) 110*d*.
structural changes, (7) 157*g*.
-to-metal sealing. See *Seals and sealing*.
metals on, condensation energy for, (7) 170*j*.
microhardness, relation to microheterogeneity, (10) 229*b*.
minor constituents, theory and practice in use of, (11) 254*c*.
mirrors. See *Mirrors*.
molds. See *Molds*.
molecular transport in, (5) 110*f*.
molten, alkali silicate, electrical conductivity of, (9) 206*e*.
container for, P (1) 6*d*.
control of convection currents of, P (1) 6*b*.
elimination of bubbles, P (2) 33*f*.
sintering under, (10) 246*e*.
study of convection currents by model technique, (10) 227*j*.
in system CaO–Al_2O_3–SiO_2, surface tension and density measurements, (2) 32*e*.
wetting of refractory materials by, (3) 62*b*.
multicomponent, calculation of optimum firing temperature and "refractory index" by use of orthogonal array, (11) 253*i*.
multicomponent, conditions of formation, (11) 254*b*.
needle valve, for precision metering of corrosive fluids, P (7) 158*i*.
Ni-containing, magnetochemical and X-ray analysis, (7) 157*j*.
in nuclear age, (9) 207*c*.
for nuclear engineering, B (3) 80*i*.
opacification, of phosphate opal glasses, (9) 208*i*.
opal, ancient, opacifier in, (6) 131*i*.
composition, P (6) 137*e*.
in Portland vase, studies of, (6) 132*c*.
ophthalmic, composition, P (4) 87*d*.
green, P (9) 209*e*.
ultraviolet and infrared absorbing, composition, P (3) 58*h*.
optical, causes of sulfate bubbles and arsenious crystal precipitations in, (9) 207*a*.
chemical resistance tests, (7) 157*d*.
composition, P (2) 33*h,i*; P (2) 34*d*; P (5) 112*c*.
crystallization of silica on, (7) 156*d*.
infrared transmittance at high temperature, spectrophotometer for measuring, (3) 56*g*.
measurement of Ryleigh's and depolarization ratios, (3) 56*f*.
problems in fining, (11) 254*j*.
refractive indices and transmittances of, (2) 31*j*.
replacement of thorium oxide in, (5) 110*j*.
self-absorption of spectral lines in spectroanalysis, (5) 111*a*.
technology of, B (1) 25*i*.
with Th, hazards and precautions in manufacture of, (7) 156*e*.
packages for, European, (2) 49*b*.
painting, manual of, (8) 185*e*.
panel, for electric heater, P (6) 137*a*.
paper, conductive, P (3) 66*d*.
paper, method of making, P (5) 112*a*.
paramagnetic resonance of Fe in, (10) 228*b*.
parts, rational cycle for annealing of, (6) 135*c*.
perforated, as mask to absorb electrons in cathode-ray tube, P (3) 57*d*.
phosphate, irradiated, fading formula for, (7) 156*g*.
opal, structure and properties, (9) 208*i*.
and phosphate-fluoride, infrared spectra of, (6) 135*i*.
photograph in, method of producing, P (2) 34*a*.
photosensitive, relation between exposure and transparency, (10) 228*f*.
physical properties, B (1) 23*i*.
change with time, (2) 31*a*.
in identification of Lucas 700 headlamp fragments, (4) 85*c*.
relation to internal structure, (1) 4*g*.
relation to structure, III, (3) 57*i*.
plane surfaces, multilayer adsorption of water near saturation pressure on, (1) 5*e*.
plastic, shears for severing mold charges of, P (6) 137*b*.
plastic impregnated sheets, P (3) 58*j*.
and plastics, in structural parts, P (3) 50*e*.
plate. See also *Glass: flat, sheet, window*.
chemical reactions on, apparatus for producing, P (4) 102*i*.
colored, vertical drawing of, (6) 135*f*.
curved, for electroluminescent lamp, P (1) 6*f*.
enameled, as wall tile, (8) 188*j*.
manufacturing process, (5) 110*g*.
production without debiteuses, (3) 57*f*.
rapid drawing, (9) 208*d*.
stress measurement in, (6) 135*d*.
polishing of. See *Grinding and polishing; Grinding and polishing apparatus*.
porcelain, microhardness and infrared reflection spectra, (2) 31*i*.
potassium bicarbonate as raw material for, (10) 228*h*.
potassium oxide-lead oxide-silica, determination of alkalis in, (2) 31*a*.
pots. See *Glassmaking apparatus and equipment; Refractories*.
powder, comparison of spherical with crushed for sintering for filter making, (10) 229*f*.
precision, fabrication and uses, (11) 254*h*.
printed circuit sandwiched in, P (9) 215*c*.
properties, basic studies at Bureau of Standards, (9) 207*d*.
relation to cords, I–IV, (11) 253*e*.
relation to structure, (10) 229*e*.
quality, experiments for studying, (7) 153*j*.
quartz, Pd-coated, permeation of H, (3) 57*c*.
quartz, for ultraviolet light lamp casing, P (2) 32*e*.
quartzoid, manufacture in China, (6) 135*b*.
from quartz sand and Ca and Na sulfides, effect of temperature and O on sulfides, (7) 156*c*.
radiation, measurement, P (4) 87*h*.
dosimeter, (9) 208*b*.
effects, application in dosimetry, (9) 206*b*.
spectral emission of, (10) 229*i*.
raw materials, formula for sampling of, (10) 227*g*.
raw materials, potassium bicarbonate as, (10) 228*h*.
reactions with polishing accelerators, (10) 229*c*.
reactions with SrO, CaO, and MgO, (10) 228*j*.
reactivity, effect of pretreatment and transition processes, (5) 109*f*.
reconstructive transformation and formation, (1) 5*c*.
refining, method, P (7) 159*e*.
reinforcement, in lead article, P (8) 189*e*.
relaxation behavior, (10) 229*b*.
research, applied, contributions to, B (6) 150*d*.
research, at Bureau of Standards, (9) 207*d*.
rods, acid-etched, strength of, (11) 254*j*.
rods, vapor coating of, P (3) 59*f*.
ruby, history of, (8) 185*i*.
polarographic estimation of Se in, (4) 85*b*.
red, colored by copper and tin, P (7) 158*g*.
safety, laminate, P (11) 257*b*.
manufacturing process, (5) 110*g*.
Russian investigation of method of making, (8) 188*i*.
sampling, at depth, apparatus for, (10) 227*e*.
sampling, of raw materials, mathematics of, (10) 227*g*.
sand. See *Sand*.
scales and patterns in, producing of, P (7) 159*c*.
schlieren. See *Glass, cords*.
sealing. See *Seals and sealing*.
seeds, in fining of optical glass, (11) 254*j*.
selenium red, factors affecting color, (5) 109*g*.
semiconducting, in systems BaO–V_2O_5–P_2O_5 and Na_2O–BaO–V_2O_5–P_2O_5, (5) 116*g*.
semicrystalline ceramic body from, P (8) 190*a*.
sheet. See also *Glass: flat, plate, window*.
apparatus for crushing glass chips on, P (4) 85*j*.
apparatus for glass chip removal, P (4) 87*b*.
application of ceramic metal coating, P (3) 66*e*.
bent tempered, mass producing of, P (10) 231*d*.
container for plurality of, P (5) 111*h*.
effect of vapors of metal chlorides on surface hardness, (7) 157*b*.
electro-optical device for computing surface area, P (4) 86*i*.
electroplating of, P (7) 158*e*.
heat treatment of, P (5) 111*e*.
manufacture, P (3) 58*i*; P (7) 158*j*.
surface cracks, from Na vapor treatment, (5) 111*a*.
tempering of, P (11) 257*a*.
tempering specified zones, P (4) 87*b*.
thickness, measuring device, P (2) 33*i*.
treating of, P (10) 231*a,b*.
signal, polarographic determination of Se in, (3) 57*e*.
signal red, process for and factors affecting color, (5) 109*g*.
silica, expansion from adsorption of nonpolar gases at liquid air temperatures, (3) 56*j*.
infrared study of water absorption in, (2) 31*d*.
strength after pile irradiation at +100° and −196°, (4) 85*j*.
transparent, incorporation of Ti, P (1) 6*f*.
trial manufacture in China, (6) 135*b*.
silicate, crystallization ability and composition, (9) 206*d*.
effect of composition on structure, (8) 200*b*.
effect of fluorides on infrared transmittance, (1) 4*e*.
electron microscopy of fractured and polished surfaces, (2) 32*a*.
hydrophobicity and adsorbed oxygen, (10) 229*h*.
infrared transmission measurements in relation to structure, (1) 5*a*.
limiting compositions, (3) 56*i*.
relation of fine structure and mechanico-acoustic properties, I–IV, (9) 208*f*.
silicone film on, study by radioactive tracer, (6) 134*i*.
silicone treatment, problems related to, (5) 110*g*.
silvering method, P (2) 34*c*.
sintering, spherical powder compared to crushed powder for filter making, (10) 229*f*.
soda-boric oxide-silica, determination of alkalis in, (2) 31*a*.
soda-lime, analysis by flame photometer and spectrograph, (1) 4*g*.
effect of electron bombardment on properties, (9) 206*d*.
in mirror segments for solar furnace heliostat, (1) 15*j*.
soda-lime-magnesia-silica, determination of alkalis in, (2) 31*a*.
soda-lime-silica, effect of iron compounds on transmission and color, (11) 253*f*.
soda-lime-silica, effect of TiO_2 on viscosity and surface tension of, (9) 207*i*.
soda-silica and soda-lime-silica, study of dielectric relaxation in, (2) 31*f*.
soda-silicate, thermoluminescence, (4) 85*f*.
Na absorption by, (1) 4*d*.
Na borosilicate, low-angle X-ray scattering by, (7) 156*i*.
solar furnace, as origin of tektites, (10) 228*f*.
space-charge development in, (5) 111*c*.
spectral emission of radiation by, (10) 229*i*.
spheres, integrating, technique for coating with MgO, (2) 31*c*.
stability. See *Glass, chemical stability*.
stained, history, technology, and practice, B (10) 248*g*.
stained, window, planning of, (8) 185*g*.
steel-gray, composition, P (4) 86*a*.
Steklofon, method of making, (10) 229*a*.
stones, effect of melting pot on formation, (5) 110*d*.
strains, nonannealable, effect on light scattering, (3) 56*f*.
strength and static fatigue of, III, (4) 85*a*.
stresses induced by quenching, calculation of, (6) 134*h*.
Sr, leaching, volatilization, and enamel-forming properties, (7) 157*c*.
Sr, leaching resistance, (4) 85*g*.
structural, banded hollow unit, P (10) 230*b*.
structure, changes during melting, (7) 157*g*.
of halides, I, (11) 254*a*.
infrared study of water in, (9) 208*g*.
new theory of, (3) 57*a*.
relation to mechanicoacoustic properties, (9) 208*f*.
relation to physical properties, III, (3) 57*i*.
relation to properties, (10) 229*e*.
sulfide films, direct deposition by evaporation, (4) 92*e*.
sulfur-yellow, sulfides as cause, (5) 109*h*.
surface, apparatus for decorating by silk screen process, P (3) 59*e*.
corrosion by animal tissues, (10) 227*f*.
polished, crystallization of silica on, (7) 156*d*.
removal of plaster particles by vibration, P (3) 59*d*.
silicones for protection, (7) 157*e*.
structural implications of electron microscopy of, (2) 32*a*.
systems, acid-base relationship in, I–IV, (11) 253*b*. See also *Systems*.
in systems containing PbO, B_2O_3, Al_2O_3, and P_2O_5, (9) 207*e*.
S-23, improving transparency in near infrared, (9) 207*i*.
target, image orthicon, P (2) 33*c*.
technical, refractories for melting in continuous tanks, (9) 211*f*.
technology, history of Bureau of Standard's activities in, (9) 207*d*.
technology, textbook of, Vol. III, B (2) 50*i*.
telescope disks, ring molds for casting, P (9) 210*a*.
temperature, measurement, avoidance of errors due to background radiation, P (4) 87*h*.
tempering, of internal and external surfaces to different degrees, (10) 229*a*.
of sheets or plates, P (11) 257*a*.
in specified zones, P (4) 87*b*.
tensile strength, indentation study, (3) 56*c*.
thermal conductivity, effect of composition, (11) 254*i*.
thermal expansion, formula for calculation, (3) 57*i*.
thermal history, relation to devitrification, (9) 206*f*.
thermal properties, (8) 188*f*.
thermal shock resistance, determination, (7) 156*e*.
thermal treatment, effect on microhardness, (10) 229*b*.
for thermometers, (11) 254*a*.
thermometers, clinical, marking graduations, P (8) 190*b*.
through the ages, B (9) 224*a*.
tin oxide films on, surface resistivity of, P (10) 231*b*.
transparency, improving in near infrared, (9) 207*i*.
treatment with epoxy-silanes and their epoxy-amine adducts, P (11) 256*g*.
tubes. See *Tubes*.
tubing, precision in manufacture, (11) 254*k*.
tubing, vacuum fabricated, (11) 254*d*.
turbulence, in tanks, study by use of model, (10) 228*c*.
types, and uses in chemical industry, (3) 56*d*.
vanadium-phosphoric acid, effect of vanadium in lower valence state on electrical properties of, (11) 253*h*.
vessels, mounting for electrodes in, P (6) 143*b*.
vikor, manufacture in China, (6) 135*b*.
viscosity, calculation of changes due to temperature, (10) 227*i*.
effect of components replacing silica, calculation by use of orthogonal array, (11) 253*i*.
rapid measurement at high temperatures, (1) 4*j*.
variations as function of time, (10) 229*h*.
vizhurit, Russian investigation of method of making, (8) 188*i*.
volcanic. See *Volcanic glass*.
Vycor, porous, flow of liquid hydrocarbons in, (7) 173*f*.
walls, excessive heat transmission, (4) 103*c*.
wall tile, with firepolished surfaces, (10) 228*e*.
wall tile, new production method, (8) 188*j*.
ware, application of coatings, P (7) 157*h*.
coated illuminating, composition, P (2) 32*f*.
decorated, protective coating for, P (3) 59*h*.
decorated, sales training manual, (7) 182*d*.
hollow, control of quality and dimensions, (5) 110*e*.
hollow, forming by rotating tools, patent review, (7) 156*j*.
hollow, occidental and oriental form in, (9) 203*j*.
pharmaceutical, quality and testing, (1) 5*b*.
weight-to-volume ratio in containers, (5) 110*i*.
window. See also *Glass: flat, sheet, plate*.

Glass, window (*continued*)
for admitting solar radiation, P (3) 70*a*.
manufacturing process, (5) 110*g*.
windshield, P (7) 159*e*.
curved, rapid method for bonding, (9) 208*d*.
with electrically conductive areas, P (11) 255*c*.
wool. See *Glass, fibers*.
working, electrical, P (2) 32*j*; P (2) 33*a*.
Glass Container Industry Research Corp., purpose and activities, (5) 110*i*.
Glass Factory Directory, 1960, B (5) 130*d*; B (5) 130*e*.
Glass industry, British, instrumentation in, (8) 188*h*.
British Directory and Buyer's Guide, B (5) 129*i*.
German, availability of U compounds, (6) 149*j*.
historical development, (5) 110*g*.
1958, I, II, (8) 188*d*.
1959, review, B (5) 130*e*.
oil firing in, (9) 217*f*.
Polish, (6) 135*c*.
ten years progress, 1948–58, (9) 208*b*.
use of Mo in, (7) 157*e*.
use of powdered quartz in, (6) 135*c*.
Glassmaking apparatus and equipment. See also *Burners; Furnaces; Crushing and grinding apparatus; Molds*.
for arranging irregularly shaped containers, P (7) 157*h*.
article spacing mechanism, P (10) 230*b*.
for attenuating fibers, P (9) 209*d*.
for automatically supplying workpieces to optical glass treating machine, P (8) 188*i*.
automatic cutting machine, P (11) 255*i*.
for beads, P (11) 254*j*; P (11) 255*b*.
for bending and cutting sheets, P (2) 34*c*; P (8) 190*a*.
bending molds, P (3) 58*f*.
bending molds, sectionalized, P (5) 111*c*.
for bending sheets, P (2) 32*c*; P (3) 58*i*; P (6) 135*i*; P (9) 209*a*.
for blanket charging batch, P (3) 57*e,f*.
bottle blowing machine, P (4) 87*c*.
for centering hot parisons, P (10) 230*i*.
for coated illuminating ware, P (2) 32*f*.
for coating lens, evaporation process, P (4) 86*f*.
for composite assembly with two glass sheets and thermoplastic interlayer, P (4) 86*e*.
for conditioning molten glass from furnace, P (4) 86*b*.
for continuous winding of strands, P (8) 189*c*.
for control, of convection currents of molten glass, P (1) 6*b*.
in drawing of tubes and rods, (3) 56*c*.
of heating of glass sheets, P (6) 135*i*.
conveyer for feeding lamp bulbs, P (5) 112*c*.
conveyer for windshield glasses, (7) 156*c*.
cutter trolley unit, P (10) 230*b*.
for decorating bottles and bottle chucking device, P (7) 158*b*.
for delivering mold charges to forming machine, P (7) 157*i*.
for dip coating articles, P (10) 230*d*.
for drawing sheet glass, P (3) 57*h*; P (7) 159*b*.
for drilling glass, P (10) 230*a*.
for drilling large holes through glass sheets, P (3) 58*j*.
for electrically heating glass batch, P (2) 33*h*.
for electric lamp, P (5) 111*i*.
for evacuated and gas-filled devices, P (8) 190*c*.
for extracting threaded plunger from glass article molded thereon, P (4) 87*e*.
feeder plungers, molds for making, (6) 138*b*.
feeding apparatus for batch materials, P (8) 189*f*.
for feeding and conveying molten glass, P (3) 57*i*.
for fibers, forming, attenuating, and coating, P (5) 112*h*.
rotor apparatus, P (8) 190*b*.
spinning of, P (8) 190*d*.
for forming, condensed glass fiber mats, P (4) 86*j*.
curly glass fibers in mat form, P (7) 158*a*.
fibers, P (3) 57*j*; P (5) 112*a*; P (8) 189*h*; P (9) 208*i*; P (11) 254*i*; P (11) 256*f*.
glass fiber mats, P (7) 157*j*.
ophthalmic lenses, P (8) 188*j*.
and treating fibers, P (2) 32*i*.
spheres, P (4) 87*a*.
furnaces. See *Furnaces*.
gob guide, P (10) 230*j*.
for grinding. See *Grinding and polishing*.
for guiding charges into molds, P (4) 86*a*.
for handling glass, P (11) 255*a*.
for high speed assembly of incandescent lamps, P (9) 209*j*.
for homogeneous glass, P (6) 136*d*.
homogenizer, P (3) 58*a*.
for incandescent lamp, P (11) 256*a*.
for inspecting glass containers automatically, P (2) 32*b*.
for inspecting glass spheres, P (3) 59*a*.
for laminated safety glass, P (6) 136*h*.
for laminating composite assembly of glass sheets with thermoplastic interlayer, P (10) 230*a*.
large capacity, decreased fuel consumption, P (1) 6*e*.
for lens, precision, P (8) 189*i*.
for making, blown plastic articles, P (3) 59*b*.
curved tinted laminated interlayers, P (9) 209*g*.
decorative articles, P (9) 209*a*.
flat glass, P (4) 86*i*.
glass foil, P (4) 86*b*.
openings of predetermined size on glass bodies, P (5) 112*f*.
sheet glass, P (11) 255*f*.
small bottles from glass tubes, P (9) 209*a*.
windowed article, P (11) 256*g*.
for marking graduations on clinical thermometers, P (8) 190*b*.
for measuring sheet thickness, P (2) 33*i*.
for melting glass, P (7) 159*d*.
Glassmaking apparatus and equipment (*continued*)
for metal coating of fibers at high speeds, P (3) 58*h*.
mold holder and finish ring holder lock for forming machine, P (10) 231*c*.
molds. See *Molds, glass*.
movable table runout and return, P (2) 34*d*.
nipper roll press, for curved laminated sheets, P (1) 6*b*.
for optical glass, B (1) 25*i*.
pneumatic take-out, for ware, P (7) 159*c*.
for polishing. See *Grinding and polishing apparatus*.
pots, manufacture and firing, (11) 254*c*.
pots, for melting lead crystal, protective coatings for, (3) 61*c*.
precision devices, vacuum techniques for production, (11) 254*d*.
press-and-blow machines, increased output, (8) 188*h*.
press for glassworking, P (2) 33*a*.
for pressing curved glass laminations, P (3) 57*j*.
for pressing curved laminated glass sheets, P (11) 255*h*.
for press molding hollow ware, P (3) 58*g*.
for refining glass, P (7) 159*e*.
for reinforced fiber glass tube, P (11) 254*h*.
for removing fins from molded article, P (2) 33*d*.
for removing liquids from glass plates, P (11) 256*i*.
for resistance heated panel, P (1) 6*j*.
for ribbon, continuous, P (4) 86*f*.
rolling machine, electric gun for, P (10) 230*e*.
in Russian glass plant, (9) 208*d*.
for severing glass, P (7) 158*j*.
shears for severing mold charges, P (6) 137*b*.
for sheet glass, improved feeder die, P (1) 6*i*.
pattern-cut bent, P (1) 6*g*.
supporting of, P (6) 136*a*.
for sheet or mat from glass fibers, P (8) 189*a*.
stirring mechanism, P (3) 58*b*.
for surfacing glass, P (11) 255*h*.
for surfacing glass sheets, P (8) 189*j*.
for tapered rods, P (5) 111*d*.
for technical control of glassmelt, (3) 56*c*.
for tempering bent glass, P (6) 135*e*.
template cutting, for bent sheets, P (8) 190*c*.
for thermometer bulb, P (2) 32*j*.
timer for ware forming machines, P (7) 159*d*.
for tipping off electron tubes, P (9) 210*a*.
for transferring, articles from one conveyer to another, P (3) 58*c*.
lamps, P (2) 33*e*.
parisons, P (5) 112*b*.
sheets for double glazed units, P (2) 34*b*.
for treating edges of bent laminated glass sheet, P (7) 158*h*.
for treating interior surfaces of glass containers, P (11) 255*d*.
for varying heat applied to molten silicates in relation to flow characteristics, P (2) 33*j*.
for ware transfer, P (2) 33*a*.
for ware transfer, high speed, P (4) 86*e*.
for washing curved sheets, P (6) 136*b*.
for washing glass articles, P (3) 59*c*.
Glauconite, determination of mixed layering in, (7) 171*j*.
Glazes. See also *Decoration*.
for acoustic fireproof tile, production method, P (9) 212*b*.
adherence, to ceramic body, measurement, (4) 91*f*.
alginic acid esters in, (6) 140*i*.
ancient, use of draw pieces as firing aid, (5) 105*j*.
ancient Greek, types of failure, (5) 106*b*.
application, to bone china, (11) 250*c*.
-body layer, effect on crazing and peeling, (1) 10*g*.
ceramic colors for, (1) 10*e*.
with chromium oxide, experiments, (8) 194*a*.
composition, P (8) 194*d*.
copper-red, constitution of, (1) 10*j*.
crazing, factors affecting, (1) 11*c*.
for crystalline stoneware, formula and variations, (9) 203*i*.
defects, characteristics, causes, and prevention, (8) 193*j*.
development in system $SrO-Na_2O-SiO_2$, (7) 157*e*.
for earthenware, boron-free leadless, (5) 114*j*.
frits. See *Frits*.
gray and black, oxides for producing, (7) 153*i*.
historic, studies of, (6) 132*a*.
lead, solubility, IV, V, (1) 11*f*.
PbO, with CoO as main colorant, (3) 63*d*.
low-temperature, development, (1) 10*i*.
materials, for pottery in Iraq, (7) 154*a*.
Ni in, (6) 141*c*.
opacification, mechanism with zircon and tin oxide, (2) 38*i*.
opacification, with Zr silicate, principles of, (0) 141*f*.
opaque, application of silicate liquid immiscibility to development, (5) 115*b*.
replacement of SnO_2 with ZrO_2, (5) 115*i*.
tin oxide, coloring by Cr, (1) 10*i*.
optical determination of surface quality, (10) 236*h*.
over-, colors, resistance to acid, alkali, and washing agents, (6) 140*j*.
Pt for decorations on, (8) 194*b*.
porcelain, determination of abrasion resistance, (6) 141*d*.
preparation and composition, B (3) 80*e*.
recipe book for, B (7) 183*j*.
salt, of ceramic ware, P (11) 257*j*.
in sanitary ware industry, (7) 162*j*.
self-opacified, frit for, P (5) 116*b*.
semiconducting, corrosion of, (6) 141*b*.
sgraffito, on vessels and plates, (9) 203*h*.
smoked, for cone 04 to 10, I-III, (9) 203*j*.
stoneware, preparation of ash for, (7) 154*a*.
Glazes (*continued*)
stresses in, effect of thickness and Young's moduli, (1) 11*j*.
for temmoku bowl, (4) 82*d*.
titania, self-opacified, effect on ceramic stains, (8) 193*h*.
use of Si as reducing agent in, (2) 38*d*.
for wall tile, (6) 140*j*.
Glazing, electrostatic, graphite base for, P(10) 227*c*.
importance and measurement of contact angles in, (2) 42*h*.
Gloss, on ceramic materials, measurement, (3) 68*h*.
Glossaries. See *Nomenclature*.
Glycerol, reactions with vermiculites, (3) 77*f*.
Glycol, ethylene, reactions with vermiculites, (3) 77*f*.
Gold, adhesion to glass, (10) 227*e*.
bonding to fused silica, effect of O_2, (4) 100*i*.
bright, possible use of residues, (8) 185*i*.
films, deposition on glass, (8) 187*i*.
for lining of enameling furnace, (10) 226*g*.
Goniometers, counter, quantitative mineral analysis with, (3) 68*j*.
Grain growth, in synthetic beryllia, (11) 258*j*.
Grains. See *Particles*.
Granite, feldspar, on Isle of Man, (7) 166*j*.
ground, in porous lightweight concrete, P (1) 3*d*.
Granodiorite, hydrothermal alteration, B (9) 223*f*.
Granular materials. See also *Powders*.
artificially colored and coated, P (7) 159*j*.
auger feeding by fluid pressure operated device, P (4) 99*c*.
automatic batching of composite mixtures, P (8) 196*c*.
changes in surface area during reactions in solid state, (5) 123*a*.
compacting device, P (4) 95*j*.
device for weighing batches of, P (5) 118*f*.
of different densities, separation by means of liquid, P (1) 17*f*.
of different densities, separator for, P (1) 18*f*.
drier for, P (8) 196*g*.
drying and heating apparatus, P (8) 196*c*.
feeding apparatus for, P (5) 118*g*; P (8) 196*a*.
feeding apparatus for analyzer for, P (7) 166*a*.
feeding to plural supply locations, P (7) 164*i*.
finely divided, cooler for, P (4) 97*g*.
finely divided, drier for, P (4) 95*c*.
in liquids, selective separation, P (10) 239*h*.
metering apparatus for, P (5) 118*h*.
organic compounds for suspending, (3) 71*a*.
roller mill for, P (7) 165*c*.
semiautomatic weighing device, P (7) 168*f*.
S-bearing, in blast-furnace lining to prevent disintegration, P (4) 89*f*.
turbulent pneumatic driers for, P (2) 42*f*.
Granulation. See also *Crushing and grinding*.
of forsterite clinker for production of refractories, (9) 211*g*.
of glass batches, advantages, (9) 207*h*.
of magnesite open-hearth fettling powders, (2) 35*g*.
method, for ceramic powder, P (8) 196*b*.
Granulometric analysis. See *Analysis*.
Granulometry, of Brazilian kaolins, (5) 121*c*.
Graphite, (6) 145*h*; (6) 146*b*. See also *Carbon*.
action of halogens on, magnetochemical study, (1) 20*e*.
in aircraft brake material, P (1) 9*i*.
anisotropic thermoelectric power of, (8) 194*f*.
block mold, for continuous casting, P (11) 260*c*.
bonding to metal borides, P (2) 40*j*.
C-axis electrical conductivity of, (2) 46*d*.
coating with metallic carbides, P (8) 192*g*.
crystal compounds of, metallic compounds in, (7) 175*a*.
crystal structure, properties, and uses, (2) 36*e*.
diamagnetism of, (2) 39*g*.
electrically conductive particles, in filter element, P (8) 196*h*.
electrodes, in electric glass furnaces, (6) 135*c*.
electronic structure and diamagnetism of, (3) 64*h*.
in electron tubes, B (7) 183*c*.
gallium chloride and indium chloride in, (5) 125*h*.
Hall effect and magnetoresistivity, (2) 39*d*.
ignitor shank and support member for electrodes, P (8) 192*d*.
for increasing strength of sintered ferrous articles, P (11) 260*h*.
low-temperature conductivity, (4) 98*g*.
material properties, B (1) 23*f*.
natural crystals, radiation damage to electrical conductivities, (2) 47*j*.
in 1958, (5) 120*i*.
oxidation-resistant, P (4) 89*g*.
in oxidation-resistant article, P (3) 62*f*.
particles, as coating for finishing ceramic ware, P (10) 227*c*.
polycrystalline, thermal inelastic scattering of cold neutrons in, (10) 245*g*.
porous, method of making impervious to fluids, P (5) 114*h*.
powder, in mold for Ti casting, (10) 233*c*.
production of diamonds from, apparatus for, P (11) 265*b,c*.
pure, producing of, P (10) 235*h*.
purification, P (5) 122*i*.
pyrolytic, tensile behavior at 2750°C., (10) 241*d*.
reaction with chlorine, study by magnetic susceptibility measurements, (1) 19*i*.
single crystals, production by thermal decomposition of Al_4C_3, (3) 77*d*.
strategic, survey of, (11) 268*g*.
surfaces, wear by punching and planing, (3) 79*f*.
technical colloidal, investigation of, (2) 44*d*.
thermal and electrical conductivity, dependence on temperature, type, neutron irradiation, and bromination, (4) 101*e*.
thermal properties, (8) 188*f*.
whiskers, development and structure, (10) 244*g*.

Graphitization, of diamond, (8) 200*g*.
residues, of thermal decomposition of carbonaceous materials, P (11) 260*j*.
Gravel, stockpiles, measuring method, (2) 44*i*.
Greases. See *Lubricants*.
Grinding (size reduction). See *Crushing and grinding*.
Grinding and polishing. See also *Abrasives*.
buffing compounds, for Ni- and Cu-plated metals, (3) 51*k*.
of ceramic materials with bonded abrasives, (3) 67*f*.
disk, with grooved working face, P (1) 1*f*.
electrolytic, dressing of tool face, P (1) 1*h*.
of glass, chemical processes in, (6) 134*i*.
with fine abrasive powders, effect of particle size, (4) 81*f*.
flat, high pressure process, P (9) 209*i*.
flat, principles of, (1) 5*a*.
lens, P (10) 230*d*.
plate, P (9) 203*e*; P (9) 209*e*; P (9) 209*i*.
sheets, method, P (6) 136*f*; P (8) 189*j*.
study of action of accelerators by use of tagged atoms, (10) 229*d*.
trial of polirit, (4) 81*f*.
water and ZrO_2 as agent, P (8) 189*d*.
of hard crystalline carbon, P (8) 185*f*.
microwave controlled, of ceramic radomes, (2) 40*c*.
of precision ceramics, by free abrasion, (2) 41*g*.
of surfaces for microscopic examination in reflected light, I, II, (7) 177*c*.
Grinding and polishing apparatus. See also *Abrasives*.
abrasive belts, review, (4) 81*e*.
coated abrasives as, B (2) 49*e*.
disk, making of, P (7) 153*k*.
disk, with workpoint in full view, (6) 131*f*.
electroerosive, P (5) 118*f*.
for glass, apparatus for vertically actuating tools of machines for, P (3) 58*a*.
fire finishing machine, P (3) 58*c*.
flat, B (2) 50*i*.
improved polishing pad, P (2) 33*j*.
sheet, P (4) 86*d*; P (6) 135*j*; P (11) 255*k*; P (11) 256*h*.
metal lapping compound, P (11) 250*a,b*.
for optical surface in refractive material, P (4) 86*h*.
for polishing and buffing sink ribs, P (8) 187*a*.
preparation of tools, B (5) 130*e*.
prepolishing, of plate glass, P (9) 209*j*.
with removable layer of bonded abrasives, P (1) 1*f*.
for removing fins from molded glass article, P (2) 33*d*.
rotary buffer, P (4) 81*j*.
rotary element, P (1) 1*h*.
for surfacing glass lens, P (5) 112*d*.
wheel, P (4) 81*h*; B (5) 130*e*.
with alumina bubbles, for soft nonmetallics, (3) 51*f*.
art of dressing, P (11) 249*j*.
composition, P (10) 225*f*.
composition and construction, P (3) 51*h*.
cup-shaped diamond, P (10) 225*e*.
device for balancing during rotation, P (9) 203*e*.
electrically conductive, apparatus for dressing, P (5) 105*h*.
firing of, (8) 185*e*.
heat-resistant, P (11) 249*j*.
metallic bonded, trial production, (2) 27*h*.
PSG-6 BV precision surface grinder for testing characteristics of, (5) 105*f*.
relation between melting state and electrical conductivity of bonds, (3) 51*j*.
structure, P (11) 249*i*.
vitrified abrasive wheels, III, (2) 27*f*.
Grits, for shot blasting of cast iron, (2) 30*f*.
Grog, alumina content, rapid determination, (7) 177*j*.
content, of extruded brick, effect on green and fired properties, (9) 215*j*.
fire-clay, bodies, linear changes during firing and reheating, (2) 35*h*.
vibrogrinding for improving quality of high grog refractories, (3) 62*a*.
Gypsum, (6) 145*h*; (7) 167*b*. See also *Plaster of Paris*.
adsorption of surface-active agent on, (1) 2*f*.
by-product, from phosphoric acid process, V, (3) 52*h*.
calcination of, P (4) 83*c*; P (8) 186*d*.
calcined, high strength low consistency, P (5) 108*c*.
cement, P (4) 83*f*.
crude, equipment for continuous grinding and simultaneous burning, (5) 107*d*.
dehydration, and formation of $CaSO_4 \cdot 2/3H_2O$, (11) 250*j*.
desulfurization of, (6) 132*f*.
drying of, P (9) 205*c*.
DTA and TGA of, (3) 53*c*.
effect on cement clinkers with various Al_2O_3 contents, (7) 154*h*.
hardened, electron microscope study of, (7) 154*j*.
hemihydrate, autoclave treatment for making stronger plaster, (1) 3*c*.
mineralogical changes, determination by DTA, (5) 106*e*.
mining of, for molds, (6) 141*d*.
plaster from. See *Plaster*.
production of hemihydrate from by autoclave treatment, (7) 155*b*.
and products, in 1959, (7) 166*i*.
raw, preparation and conversion into hemihydrate plaster forms, II, (3) 54*c*.
raw, suitability for cement manufacture, (4) 83*a*.
thermography in study of, (5) 106*g*.
use in clay products industry, B (1) 25*j*.
Gypsum (*continued*)
wallboard, drying of, P (4) 83*e*.
Gyroscopes, ceramic, for space guidance, (10) 236*a*.

Hafnium, carbide, thermal expansion, (10) 245*g*.
indirect titrimetric determination in oxide mixture, (10) 244*f*.
minerals, B (6) 150*e*.
oxide, systems. See *Systems*.
separation of Zr from by solvent extraction with alkyl phosphate, P (6) 149*d*.
sulfide, selenide, and telluride of, I–IV, (7) 180*g*.
Halides, glass forming, structure of, I, (11) 254*a*.
metal, production, P (4) 99*j*.
Hall effect, photoinduced, in MgO, (4) 101*b*.
Halloysite, formed in calcareous hot spring environment, B (9) 223*g*.
interlayer complex with NH_4Cl, (7) 174*c*.
morphology of, B (9) 223*a*.
oriented penetration of ionic compounds between silicate layers of, (3) 76*h*.
Halogens, action on graphite, magnetochemical study of, (1) 20*e*.
Handbooks, for cement engineers, B (6) 150*d*.
of engineering materials, B (1) 23*f*.
of metallizing, B (6) 151*h*.
on metals used in high-vacuum technology, B (7) 182*i*.
of nondestructive testing, B (10) 247*c*.
physics, B (1) 23*i*.
of refractory concrete, B (6) 152*i*.
Hardening, case-, of carbon black pellets, P (2) 45*j*.
Hardness, of building brick, comparison of methods for measuring, (1) 15*b*.
HV and HR scales, practical use of, (2) 43*a*.
of inorganic compounds, atomistic interpretation, (7) 169*f*.
of mica, natural and synthetic, (3) 75*c*.
micro-, of Al boride crystals, (3) 76*e*.
micro-, of glass, relation to microheterogeneity, (10) 229*b*.
mold-, measurement and standard testing equipment, (1) 15*f*.
surface, of sheet glass untreated and treated with vapors of metal chlorides, (7) 157*b*.
testing device, P (5) 119*e*.
Hausmannite, acoustic relaxation effect in, (10) 243*c*.
Health. See also *Air, pollution; Dusts; Safety; Silicosis*.
of cement workers, Cr as cause of eczema, (5) 106*i*.
occupational diseases, Soviet literature on, B (7) 184*a*.
Heat. See also *Conductivity, thermal; Temperature*.
balance, of cooling part of glass tank, effect of barrier, (8) 188*a*.
charts and flowsheets for cement clinker kiln system, (1) 2*i*.
diagram for tunnel kiln, variation in operation, (3) 69*h*.
capacity, curve, for showing crystallinity of silica gel, (5) 124*a*.
of glasses and graphites, (8) 188*f*.
of magnetite crystal at liquid He temperatures, (2) 47*i*.
of rare earth iron garnets and YIG at low temperatures, (10) 237*i*.
techniques and apparatus for measuring at very high temperatures, (11) 265*c*.
ceramic coatings resistant to, (2) 30*a*.
conduction, analysis, II (5) 120*a*.
importance in brick firing, (8) 190*f*.
measurement at high temperature, B (6) 152*d*.
content, high temperature, continuous measurement in glasses and fused salts, (11) 254*f*.
control, in storage of coated abrasives, (6) 131*e*.
effect on kandite-containing clays, (7) 172*b*.
effect on organomontmorillonite complex, (7) 172*d*.
exchange, pebbles, capable of withstanding mechanical and thermal shock, P (2) 37*f*.
exchangers, ceramic, for rotary kilns, (8) 186*f*.
of formation, of $AlPO_4$, (5) 125*c*.
of inorganic compounds, correlations between, (5) 124*a*.
of La_2O_3 and $La(OH)_3$, (5) 125*f*.
of potassium calcium silicate, (2) 46*d*.
of hydration, of system asbestos–cement–water, (2) 28*h*.
passage through brickwork of tunnel kiln car top, (6) 145*c*.
radiant, for annealing glass containers, (8) 187*i*.
-resistant, ceramics, in engineering, (8) 193*f*.
composition, of MgO and H_3PO_4, P (9) 212*a*.
material for absorbing electromagnetic wave energy, P (6) 143*f*.
of solution, of MgO, X-ray study of factors causing variation in, (10) 246*a*.
total, in open-hearth furnaces, direct measurement, (2) 42*i*.
transfer, between batch and flame region of glass furnaces, (6) 134*g*.
charts for time-variable boundary conditions in semi-infinite solids, (3) 75*f*.
mechanisms of, B (11) 274*d*.
in tunnel kilns, (2) 43*d*.
treatment, of Co ferrite, neutron diffraction study, (11) 263*f*.
effect on constitution and properties of silica refractories, (4) 88*f*.
effect on sintering of "active" oxide powders, (8) 200*j*.
of injection molded products, factors in, (11) 268*i*.
of metal-coated glass fibers, P (2) 33*c*.
of sanitary ware during casting on conveyer, (10) 236*c*.
Heat (*continued*)
of wetting, determination, bulb breaking correction, (9) 219*b*.
of wetting, of silica powders, (7) 178*f*.
Heat conductivity. See *Conductivity, thermal*.
Heaters, electric, radiant, P (10) 227*b*.
electric, resistance supporting plate for, P (4) 89*j*.
glass-concrete panels, (10) 226*b*.
panel electric, glass, P (6) 137*a*.
Heating, apparatus, dielectric, P (6) 143*c*.
as cause of density changes in borosilicate glasses, (4) 84*j*.
convection, apparatus, P (5) 120*e*.
efficiency, of wet process rotary cement kiln, (7) 154*j*.
induction, in determination of spectral emissivity at high temperatures, (5) 124*f*.
Heating elements. See also *Electrodes*.
coated, P (2) 37*g*.
electric, glasslike seal for, P (4) 93*b*.
Kanthal Super for 1700°C., (4) 97*h*.
Mo in alloys for, (7) 157*e*.
sintered ceramic body for, P (8) 192*c*.
$MoSi_2$, for temperatures to 1700°C., (8) 197*i*
SiC, application, I–IV, (2) 44*a*.
SiC, use to 2000°F., (4) 97*e*.
thermoelectric device, P (6) 143*f*.
for vaporizing coating process, P (3) 62*e*.
Heavy clay industry. See *Structural clay industry*.
Hectorite, stability and decomposition products, B (9) 223*i*.
Heliostat, for automatic sun tracking in solar furnace, (1) 15*h*.
for solar furnace, (1) 15*j*.
Helium, excess, in beryl and other minerals, (3) 74*b*.
Hematite, crystal, antiferromagnetic, magnetostrictive effects in, (7) 174*f*.
precipitate, orientation to ferrite host, (1) 13*a*.
single crystals, electron diffraction study of effects of heat-treatment, (10) 244*d*.
single crystals, magnetic phenomena, (1) 13*e*.
Heterogeneity, of raw materials, mathematical estimation, (8) 198*d*.
Hot tops. See *Refractories*.
Humidity. See also *Moisture; Water*.
control, device, P (10) 240*e*.
control, in storage of coated abrasives, (6) 131*e*.
detector element, polyelectrolyte as, P (9) 217*g*.
drying, I, (6) 141*f*.
of gases, apparatus for measuring, P (8) 197*b*.
measurement, high sensitivity apparatus, P (8) 197*c*.
relative, device for direct measurement, P (4) 97*a*.
relative, measuring apparatus, P (4) 97*a*.
summer and fall, effect on furnace atmosphere, (8) 187*h*.
Hydrargillite. See *Gibbsite*.
Hydrates, of sodium carbonate, correction, (3) 75*e*.
Hydration, in ball mill, of tricalcium silicate, (7) 169*g*.
degree of, relation to strength of slag cements, (8) 185*j*.
heat of. See *Heat*.
re-, of dry clays, resulting size variation, (5) 118*h*.
Hydrators, nonpressure, for normal and dolomitic limes, (3) 54*j*.
Hydrocarbons, liquid, flow in porous Vycor, (7) 173*f*.
Hydrochloric acid, reaction with vitreous sodium silicates, (7) 178*e*.
Hydrocyclones. See *Classifiers; Separators, cyclones*.
Hydrogels. See *Colloids*.
Hydrogen, atomic, interaction with glass, (7) 156*f*.
fluoride, vapor, effect on clays, (11) 270*h*.
permeation through quartz glass coated with palladium, (3) 57*c*.
Hydrogen ion concentration, of clays blunged in high-intensity dispersion mill, (3) 63*i*.
control, for molding sand, (5) 113*h*.
effect of adjustment on British building and fire clays, (3) 70*d*.
effect on gelation of reaction product between Fe or Cr chloride and Na silicate, (5) 127*i*.
effect on gelation time of products of metathesis of Na silicate with chlorides of Fe and Cr, (5) 128*d*.
measurement, with glass electrodes, alkali error in, (9) 208*a*.
measurement, highly conductive electrode glass for, (1) 5*g*.
Hydrophobicity, of silica glass, relation to adsorbed oxygen, (10) 229*h*.
Hydrophobization, of glass using methylsilicone resins, methylchlorosilanes, and methylphenylsilicone oils, (10) 228*f*.
Hydrothermal reactions, caused by autoclaving, (5) 126*b*.
in lime-quartz pastes, (5) 106*h*.
Hydrothermal syathesis. See *Synthesis*
Hydroxyls, on surface of amorphous silica Aerosil and their reactions, (5) 125*g*.
Hygrometers, P (1) 14*d*.
fast response recording, P (2) 43*a*.
Hygrometry. See *Humidity, measurement*.
Hysteresis, loops, method of squaring in single crystal of ferroelectric material, P (4) 92*j*.
thermal expansion, mechanism of, (11) 271*h*.
triple loop, in 5°C. transition in $BaTiO_3$, (4) 102*g*.

Igniters, surface-gap, ceramic element for, P (4) 94*a*.
Ignition, loss, effect on size and quality of wall tile, (7) 162*e*.
loss, ratio to moisture adsorption, as aid to clay mineral identification, (3) 77*e*.
Illite, separating for geochemical analysis, P (11) 273*d*.
Ilmenite, ore, pretreatment, P (5) 122*c*.
preparation of rutile from, P (5) 122*a*.

Ilmenite (*continued*)
study of substances with structure of, I, (6) 142*e*.
Immiscibility, liquid, in slag systems, (1) 21*e*.
silicate liquid, application to opaque glazes, (5) 115*b*.
Impact, ball-, test, recommendation for standardization for building brick, (1) 15*b*.
hammer, with removable wear member, P (7) 167*i*.
-resistant ceramics, from synthetic fluoramphiboles, P (11) 262*e*.
-resistant dielectric, P (8) 195*d*.
test, ineffectiveness on brittle materials, (1) 21*g*.
in measurement of glaze adherence, (4) 91*f*.
value in brittle materials, (7) 169*a*.
Impregnation, of metals, in making heat resistant hollow bodies, P (10) 235*c*.
of mica paper with alkyl orthotitanate, P (11) 264*a*.
of mica paper for insulators, (10) 237*h*.
of porous refractory jet engine parts, P (10) 235*d*.
of refractory compositions, P (11) 261*d*.
Index of refraction. See *Refractive index*.
Indicators, Calcon, in titration of Ca, (3) 75*g*.
Indium, chloride, incorporation in graphite, (5) 125*h*.
nitride, preparation by wire growth method, (5) 126*e*.
oxide, coatings, deposition by thermal evaporation, P (8) 187*e*.
Infiltration, of metals. See *Impregnation*.
Infrared, absorption, bands, in α-quartz in 3 μ region, (11) 254*d*.
absorption and reflection spectra, of porcelain glasses, (2) 31*i*.
gas analyzer, P (8) 197*c*.
near, improving transparency of glass S-23 in, (9) 207*i*.
radiation. See *Radiation; Irradiation*.
refractive indices and transmittances of optical glasses in, (2) 31*j*.
spectra, of binary phosphate and phosphate-fluoride glasses, (6) 135*i*.
spectra, relation to chemical analysis for chlorites, (4) 101*f*.
studies, of clay in caverns, (1) 17*d*.
on fused silica with reference to bands due to water, (2) 31*d*.
in 1- to 15-micron region to 30,000 atmospheres, (7) 173*i*.
of Si_3P, (5) 127*b*.
of water in glass structure, (9) 208*g*.
transmission, of glasses, evaluation of, (9) 206*i*.
transmission, measurements in silicate, borate, and cabal glasses in relation to structure, (1) 5*a*.
transmittance, of glasses at high temperature, spectrophotometric measurement, (3) 56*g*.
transmittance, of silicate glasses, effect of fluorides, (1) 4*e*.
-transmitting windows, antimonate glass for, (8) 187*j*.
Inorganic compounds, color of, (6) 147*i*.
Inspection. See *Quality control*.
Instrumentation. See also *Controls*.
in British glass industry, (8) 188*h*.
Instruments. See also specific types.
amplidyne, for control of rotary cement kiln speed, (3) 55*a*.
for analyzing weight composition, P (11) 265*e*.
automatic, for recording DTA and shrinkage and weight loss curves, (5) 123*h*.
Autrometer, for determination of Fe, Ca, Si, Al, and Mg in cement, (7) 171*h*.
Bozsin box, for establishing temperature gradients in enameling furnaces, (2) 30*c*.
computers, for automation of cement production, (4) 97*e*.
computers, digital electronic, program for performing computation of Munsell renotations, (11) 266*g*.
cone penetrometer, for evaluation of concrete and mortars, (11) 251*a*.
for control of glassmelt, (3) 56*c*.
for detecting differences in two objects, P (1) 14*e*.
for detecting foreign bodies in transparent vessels, P (11) 267*c*.
electron probe microanalyzer, P (4) 103*a*.
electro-optical computer, for surface areas of glass sheets, P (4) 86*i*.
gauge blocks, developments in materials and measurement, (11) 266*h*.
gauge blocks, method of measuring, (11) 266*i*.
for gauging transverse dimensions of linear body, P (4) 86*g*.
for measuring, casting rate of slips, (10) 236*a*.
flatness of architectural panels, (2) 30*d*.
relative translucencies of bone-china claystone bodies, (1) 11*f*.
translucency of porcelain, (3) 64*b*.
optical, for study of spectral response of photoelectric surfaces, (4) 96*f*.
proportional counter, measurement of quantum efficiency in, (7) 174*i*.
pulse taumeter, in study of spectral distribution of luminescence decay time of ruby, (7) 174*j*.
for quantitative measurement of thermoluminescence of rocks and minerals, (7) 181*f*.
quartz fiber torsion pendulum, for measuring rotational magnetic losses in ferrites at low frequency, (1) 12*i*.
for rapid measurement of glass viscosity at high temperatures, (1) 4*j*.
reflectometer and profilograph, for detecting irregularities in surface of ground glass, (3) 57*c*.
RW-300 digital computer, for running mix calculations, (10) 246*f*.
sedimentometer, radiometric, for determining particle size of thoria in range 5 to 0.1 μ, (8) 200*f*.
Instruments (*continued*)
Siemens Kristalloflex III, for quantitative X-ray analysis of silica mixtures, (8) 191*h*.
for sorting objects according to color, P (8) 197*c*.
for study of rheological behavior of clay bodies, (11) 271*h*.
for testing (penetration) properties of materials, P (4) 97*b*.
Insulation, acoustical, ASTM Standards, B (2) 49*d*.
composition, P (6) 133*a*.
wall with varying properties, P (9) 205*b*.
Insulation, electrical. See also *Dielectrics; Glass; Porcelain; Spark plug insulators*.
ceramic body for, at high temperatures, P (6) 143*c*.
coating, for magnetic sheet material, P (3) 66*h*.
composite mica paper, mica flake, P (5) 117*e*.
dielectric breakdown in, B (11) 274*c*.
elastic constants of, determination with strain gauge, (3) 68*f*.
electrophoretic deposition, B (11) 274*d*.
flexible bonded mica, P (11) 263*j*.
heat-resistant, P (3) 66*a*.
high and low voltage, and high frequency, development of, (2) 39*f*.
high pressure vitreous seal for coaxial electrical cable system, P (11) 264*a*.
high voltage, B (3) 80*i*.
resistance, of bodies of chlorite, pyrophyllite, and sericite, (4) 92*c*.
Insulation, thermal. See also *Glass, fibers; Mineral wool; Refractories, insulating*.
acid-resistant, of 99% pure silica, (2) 44*j*.
ASTM Standards, B (2) 49*d*.
calcareous-siliceous, molding method, P (2) 29*d*.
cellular, P (6) 133*d*.
cementitious, preheating of, P (4) 83*a*.
for coaxial cables, silica cord and quartz beads as, (4) 92*e*.
comparative study of thermal conductivity of materials for, (4) 89*b*.
effect on working conditions in Hoffmann kiln, (1) 15*i*.
flat-panel, evacuated mats of glass fibers in, (7) 156*i*.
high temperature glass fiber, P (10) 230*b*.
laminated, P (7) 155*g*.
materials, in Pt resistance thermometer, (9) 216*f*.
measurement of thermal diffusivity and conductivity of, (7) 174*j*.
refractory, from metallurgical slags, (2) 36*f*.
for roof in open-hearth furnace, (2) 36*g*.
for sheet metal at 2000°F., (2) 35*f*.
treatment with CO_2 of foamed concrete for, (5) 107*e*.
for tunnel kiln car tops, (2) 43*j*.
Insulators, electrical, $BaTiO_3$, P (4) 93*b*.
corrosion of semiconducting glazes for, (6) 141*b*.
forsterite porcelain as, I–V, (4) 90*f*; VI–VII, (8) 193*i*.
high frequency, suitability of Indian talcs for, (1) 11*c*.
high frequency, synthetic diopside porcelain as, (3) 63*d*.
for high-potential transmission lines, contamination and moisture resistant, (11) 262*a*.
high-tension, P (8) 194*b*.
high tension porcelain, application of plasticity theories to production problems, (7) 176*j*.
impregnated mica paper as, (10) 237*h*.
method and apparatus for making, P (4) 91*d*.
synthetic mica ceramic for, (3) 64*f*.
Interference figures, isogyres in, (3) 75*i*.
Interferometers, for measuring linear expansions produced in silica glass by physical adsorption of gases, (3) 56*j*.
in microwave controlled grinding, (2) 40*c*.
parallel testing, for comparing lengths of gauge blocks, (11) 266*i*.
in study of synthetic diamonds, (8) 200*h*.
Iodine, pentafluoride, synthesis of, (11) 272*h*.
Ions. See also *Anions; Cations*.
distribution in garnets, (10) 237*b*.
exchange, capacity, of clays, (7) 169*e*.
capacity, of Florida kaolinite, relation to surface area, (2) 48*j*.
capacity, of Indian china clays, (3) 71*b*.
capacity, for Sr ions, of Australian soils, (7) 173*a*.
in clay minerals, (8) 200*g*.
method for separation of Th from rare earths, application to monazite analysis, (9) 220*e*.
theory of crystal-chemical bonding energy, (11) 271*g*.
monovalent metal, forced movements in quartz, (9) 219*i*.
Irdomes. See *Glass*.
Iriginite, synthetic, X-ray powder data, (5) 129*c*.
Iron. See also *Enameling metals; Steel*.
adhesion to glass, (10) 227*e*.
bodies, sintering and nitriding, P (8) 192*j*.
cast, coated electrode for welding, P (1) 4*c*.
cutting at high speed with ceramic and carbide tools, (7) 153*e*.
shot blasting with various grits, (2) 30*f*.
white opaque enamel for, P (11) 252*i*.
chloride, metathesis of Na silicate with, gelation studies, (5) 128*d*.
-Co ferrites, uniaxial anisotropy in, (6) 142*h*.
compounds, in dissociation of CO, (2) 46*h*.
compounds, effect on transmission and color of soda-lime-silica glass, (11) 253*f*.
corrosion in $Ca(OH)_2$ solution and in cement mortar, (11) 250*i*.
determination, in cement, using Norelco Autrometer, (7) 171*h*.
Fe^{3+}, substitution for Al^{3+} in synthetic spessartite, (6) 148*j*.
$FeVO_3$, antiferromagnetic, production of, (10) 237*c*.
Iron (*continued*)
in glass, paramagnetic resonance of, (10) 228*b*.
magnetic, producing finely divided particles, P (10) 242*c*.
-Mn deposits, in cherty rocks, cherty nodules in, (1) 17*g*.
in material for metallizing ceramics, P (1) 13*i*.
Ni-, ferrite, magnetic properties, (1) 12*f*.
one coat enamel producing metallic finish on, P (2) 30*h*.
ores, titaniferous, beneficiation of, P (5) 198*d*.
titaniferous, flotation of silicates from, P (2) 45*g*.
titaniferous, recovering minerals from, P (2) 45*e*.
oxidation from divalent to trivalent stage, P (6) 146*h*.
oxide, action on chrome spinelides during heating, petrographic study, (3) 60*j*.
α-, absorption and reflectivity measurements, (10) 237*a*.
α-, magnetic annealing effect, (3) 64*g*.
α-, polycrystalline, oxygen mobility in, (10) 244*j*.
α-, superexchange interactions forming magnetic lattices, (2) 48*k*.
alumina-, spherical particles for catalyst, P (1) 17*j*.
for black glazes, (7) 153*i*.
comparison of critical single-domain size for Fe_2O_3 and γ-Fe_2O_3, (10) 237*e*.
containing spinels, phase relations of, I–III, (7) 176*a*.
content, in silica open-hearth roof brick, effect on spalling, (11) 259*h*.
defined, synthesis under various conditions, (5) 128*b*.
effect on cubic-hexagonal transition point of $BaTiO_3$, (7) 171*f*.
effect of Mg on decomposition, (11) 271*a*.
evaluation of diffusion of by use of ^{59}Fe, (5) 127*c*.
ferric, effect on SiC oxidation, (10) 234*j*.
ferric, manufacture, P (9) 218*g*.
ferromagnetic, in impulse record carriers, P (10) 238*d*.
ferromagnetic, production, P (1) 19*e*.
ferromagnetic structure, (1) 13*f*.
Fe_2O_3, contents in glass sand, (2) 32*h*.
Fe_2O_3, as polishing agent for glass, chemical processes, (6) 134*i*.
γ-, intradomain magnetic saturation and magnetic structure, (2) 46*h*.
manufacture, P (10) 241*i*.
microstructure of silica in presence of, (4) 88*i*.
in mixtures with Ta, Nb, and Ti oxides, X-ray spectrographic determination, (3) 79*f*.
particle size, effect on Ni ferrite formation, (2) 39*i*.
phosphate sorption by, (7) 176*i*.
red, pigment, P (9) 218*d*.
in refractory materials, colorimetric determination, (2) 36*d*.
systems. See *Systems*.
uniform uncontaminated, for pigment, P (2) 45*j*.
phosphates, containing K or NH_4, X-ray study, (3) 79*b*.
powder, in aircraft brake material, P (1) 9*i*.
removal from raw materials by Cl, II, III, (2) 44*e*.
separation and recovery from ores, P (3) 72*f*.
sheet, effect on enamel quality, (3) 55*j*.
sheet, Ti-containing, enameling of, (11) 252*f*.
in silicates, spectrophotocolorimetric test, (5) 127*i*.
soluble, content, in rocks, relation to Mg content, (7) 174*c*.
spectrographic determination in tungstic oxide, (3) 77*j*.
systems. See *Systems*.
(III) oxide, properties of, (5) 126*j*.
titanate, synthesized, physical properties of, (6) 142*e*.
-Ti compositions, electrical properties, (6) 142*e*.
and Ti, simultaneous estimation in silicates by polarography, (7) 178*j*.
Irradiation. See also *Radiation*.
fast neutron, of silica, (4) 102*e*.
γ-, of lead silicate glass, (10) 228*a*.
pile, of silica glass at +100° and −196°, effect on strength, (4) 85*j*.
Isogyres, in interference figures, (3) 75*i*.
Isotopes. See also *Radioactive tracers*.
-exchange experiments in system solid–solution, (7) 177*e*.
radio-, in recording exchange capacity of soils for Sr ions, (7) 173*a*.
radioactive, engineering and metallurgical applications, (2) 45*b*.
^{45}Ca, introduction into refractory bodies, (2) 36*b*.
for obtaining print of structure of fire-clay brick in thin section, (4) 88*h*.
in preparation of self-luminous compounds, (3) 65*a*.
in study of contamination of alloy steels used in casting, (8) 191*j*.
in study of durability of sintered bottoms in open-hearth furnaces, (3) 69*c*.
in study of material movement and dust formation in rotary cement kilns, I, II, (2) 28*i*; III, (6) 132*h*.
in study of steel contamination by refractories, (6) 140*f*.
IUPAC Commission, on high temperatures and refractories, (8) 191*i*.

Jacobsite, variation in etch behavior with different cell dimensions, (3) 79*a*.
Jewel bearings, (6) 145*h*.
Jiggering, of flat and hollow ware, shaping and auxiliary equipment, patent review, (11) 265*b*.
Joints, laminated, for glass parts, P (9) 209*j*.

Kandite, definition, (7) 172*b*.
Kaolin, Alabama bauxitic, refractory properties of, (3) 70*i*.
analysis, by thermobalance, (1) 14*j*; (1) 15*d*.
Brazilian, physicochemical and technological characteristics, (5) 121*c*.
in burner parts for coke ovens, (3) 61*d*.
catalysts. See *Catalysts*.
crystals, tubular, electron microscope and X-ray diffraction studies, (7) 173*h*.
dielectric behavior, (5) 124*h*.
domestic, clay mineral content, (7) 166*j*.
and feldspar bodies, matrix phase and pores in, (7) 175*d*.
fired, expansion when autoclaved, effect of additives, (7) 173*b*.
Guiscriff, genesis of, (7) 167*a*.
of improved dispersibility, P (11) 269*j*.
improvement of processing properties, P (4) 98*j*.
impure, high-temperature phases from, (2) 35*d*.
Indian, base-exchange capacity, (3) 71*b*.
moving-bed vapor-phase treatment, P (7) 167*e*.
Nev'yansk, with low sintering temperatures, properties and uses, (1) 17*j*.
nonelectrolytic, use of, (8) 198*j*.
origin of Karlsbad mine deposits, (3) 70*f*.
plasticity of, (6) 148*a*.
reduction of particle size, P (2) 45*d*.
Russian, in grogless semiacid brick, (10) 232*e*.
suspensions, bentonite and peptizer additions, (5) 115*c*.
tubular, mullitization of, (7) 175*e*.
U. S., production in 1958, (5) 120*i*.
and water, interaction, I, II, (7) 176*d*.
of Yexthó land (Hidalgo), (2) 44*h*.
Kaolinite, body, deposition of needle crystals of mullite in feldspar grains embedded in, (7) 175*c*.
cation exchange in, (10) 243*c*.
dehydration, effect of adsorbed univalent cations, (7) 172*j*.
effect of grinding and water absorption on, (7) 176*d*.
fired, electron microscope studies of mullite development in, (8) 200*b*.
Florida, surface area and exchange capacity relation in, (2) 48*j*.
genesis in Cretaceous shales of Colorado, B (9) 223*i*.
hysteresis of water-vapor sorption, B (9) 223*c*.
lattice defects preceding oriented transformations during heat-treatment, (8) 200*d*.
-mica-quartz mixtures, comparison with K_2O–Al_2O_3–SiO_2 equilibrium diagram, (11) 270*f*.
-mica-quartz mixtures, mineralogy and ceramic properties, (3) 75*h*.
reactions, effect of temperature, (5) 128*g*.
in Spanish bauxites, (1) 17*d*.
systems. See *Systems*.
thermal dehydration, kinetics of, (4) 101*d*.
thixotropy in, (5) 129*a*.
transformation sequence to mullite, new concept, (2) 47*c*.
Keramzite, formation of in clay bloating, (8) 190*i*.
Kieselguhr, (6) 145*g*; (7) 167*b*.
in 1959, (7) 166*i*; (11) 268*a*.
recovery of, P (11) 261*b*.
Kieserite, MgO production from roasting residues of, (6) 146*a*.
magnesium silicate ceramics from, (1) 17*a*.
Kiln furniture, cars, automated setting of refractories on, (8) 195*j*.
lubrication with synthetic Hi-Temp No. 2400, (10) 240*f*.
pyrophyllite tops for, (1) 8*c*.
tapered roller bearings in, (3) 69*e*.
transfer, rail lock for, P (5) 120*f*.
properties of SiC as, (1) 8*b*.
sagger pin, P (4) 91*f*.
saggers, construction, P (7) 161*i*.
placing of wall tile in, (2) 38*a*.
tests for vacuum casting of, (11) 259*g*.
stilts, one-piece, P (7) 162*b*.
support for metal setting plate on car, P (10) 240*j*.
tile setter, one-piece ceramic compact, P (11) 262*f*.
Kilns. See also *Burners; Furnaces; Instrumentation; Ovens*.
adobe, construction and use, (8) 185*h*.
brick, causes of condensation in, (5) 112*i*.
brick, injection oil firing for, (2) 43*g*.
for brick and tile for preventing bloating, (3) 59*j*.
carrousel, with rotating hearth and 15 chambers, (1) 15*j*.
cement. See also *Kilns, rotary cement*.
analogue computer for automating, (4) 97*e*.
electronic "hound" for prevention of hot spot damage, (4) 82*i*.
improving efficiency, (1) 2*i*.
refractory brick for, from Indian bauxite, (4) 88*j*.
world's largest in Russia, (3) 54*g*.
chamber, oil heated, for firing salt-glazed stoneware, (9) 217*b*.
continuous, relation of firing progress and output to density of setting, (8) 190*e*.
continuous drying, for sheathed welding electrodes, P (11) 267*f*.
design, models as aid in, (3) 69*j*.
and operation, for heavy clay products, (11) 257*i*.
Kilns, design (*continued*)
principles, (9) 217*b*.
Dinas brick, increasing efficiency of gas chambers in, (3) 69*i*.
drip-feed, (8) 185*i*.
dust injection, alkalis and sulfur in, (3) 52*h*.
electric resistance, ultralightweight refractories in, (8) 192*f*.
enamel, in Chinese plants, (8) 186*j*.
exhauster, with pneumatic ejector, (2) 43*g*.
gases, cooling of, P (4) 97*g*.
gas-fired, annular, rapid firing of steel-pouring refractories in, (1) 9*f*.
high-efficiency, production of low-alkali cement from, (6) 132*i*.
Hoffmann, effect of insulation on working conditions in, (1) 15*j*.
laboratory, 4000°F., with unique temperature control system, (5) 120*e*; (7) 166*d*.
lime, changes in silicoaluminous refractory in, (8) 192*h*.
effect of fuel economy on automation, (10) 226*f*.
efficiency, (6) 145*i*.
history of, (7) 154*c*.
linings, mechanism of attack on, II, (7) 154*g*.
mechanism of attack on linings of, (3) 54*f*.
mixed-feed vertical, in Germany, effect on quality and production efficiency, (10) 225*j*.
shaft, P (8) 186*b*.
vertical, capacity increase, (4) 82*j*.
vertical, history of, (10) 226*f*.
linings. See *Refractories*.
muffle, and electric, need for in ceramic industries, (2) 43*h*.
oil burning, automatic controls in, (2) 43*d*.
oil-fired, chamber, for firing salt-glazed pipe, (11) 267*d*.
periodic, and tunnel, use and construction, B (1) 2*j*.
refractories for. See *Refractories*.
removable-roof, for firing clay brick, P (10) 231*h*.
for roofing tile, underfeed stoker for, (3) 60*a*.
rotary, basic design for lightweight aggregate, (6) 145*a*.
for conducting reaction between gas and liquid spread over solid carrier, P (7) 166*f*.
construction, P (6) 133*e, f*; P (10) 240*i*.
device for measuring and recording temperatures along, (4) 90*i*.
for direct reduction of iron, selection of refractories for, (6) 140*b*.
drive mechanism, P (4) 98*b*.
drying of refractory linings for, (7) 160*f*.
for glassified aggregate, P (10) 240*f*.
with inserted sludge driers, (1) 16*c*.
material discharge from, P (1) 16*b*.
mechanization of brick supply during repair, (1) 14*d*.
muzzle attachment for gun used to shoot out clinker, P (7) 166*f*.
in production of higher purity periclase, (8) 192*e*.
refractories for refining zone, (2) 43*j*.
refractory lining for, P (2) 37*b*.
with replaceable clinker ring section, P (1) 16*h*.
rotating mechanism, P (3) 69*j*.
use of ceramic heat exchangers in, (8) 186*f*.
rotary cement, amplidyne for speed control, (3) 55*a*.
ash rings in, (3) 52*i*.
model study of formation of clinker rings in, (5) 107*g*.
study of material movement and dust formation by radioactive isotopes, I, II, (2) 28*i*; III, (6) 132*h*.
wet process, thermal efficiency of, (7) 154*j*.
wet process, type of fuel and thermal efficiency, (9) 204*g*.
shaft, for calcining clay, oil heating, (9) 217*c*.
for firing refractories, (3) 69*a*.
for solving fuel problem in cement burning in Australia, (5) 107*n*.
suspended firing of tubes or rods in, P (11) 267*d*.
studio, waste-oil burning, (7) 154*b*.
temperatures, device for observing, P (3) 69*f*.
tunnel, apparatus for regulating operation of, P (6) 145*a*.
car top, insulation for, (2) 43*j*.
car top, passage of heat through brickwork, (6) 145*c*.
construction, P (9) 217*d*.
determination of temperature in by measurement of shrinkage of wall tile fired in, (10) 236*a*.
development of, B (1) 24*i*.
heat balance diagram and variation in operation, (3) 69*k*.
heat transfer in, (2) 43*d*.
oil heated, for floor tile, (9) 217*c*.
salt glazing, P (11) 267*h*.
setting, aerodynamic resistance of, (2) 43*c*.
shielded tiered cars for firing earthenware, (6) 141*e*.
and shuttle, purpose and operation, (11) 264*g*.
study of gas-blending devices for heating zone, (8) 197*f*.
trial firing of coking Dinas in, (1) 16*g*.
for use to 1300°C., P (11) 267*e*.
20-chamber continuous, conversion to Brulax system of oil firing, (5) 120*c*.
Kinetics, of γ-ray induced coloring of glass, (9) 207*g*.
of high temperature processes, B (10) 246*i*.
of monoclinic to tetragonal phase transformation in zirconia, (7) 180*c*.
reaction, of enamel–metal systems, (6) 134*a*.
of thermal dehydration of clays, I–IV, (7) 174*a*.
of thermal dehydration of kaolinite, (4) 101*d*.
Krypton, adsorption, and surface area of silica, (8) 200*i*.

Kyanite, calcined, in friction lining, P (10) 235*b*.
Indian, in high temperature insulating brick, (10) 234*d*.
and related minerals, (6) 145*h*; (7) 167*b*.
and related minerals, in 1959, (11) 268*a*.
in U. S., bibliography of, (2) 44*g*.
Virginia, properties and uses, (8) 198*i*.

Laboratories. See also *Research and research laboratories*.
administration, B (1) 24*h*.
ceramic, techniques, B (3) 80*e*.
equipment, design for Erlenmeyer flask, P (11) 250*f*.
Lamps. See also *Glass*.
cold cathode vacuum, P (7) 155*e*.
electric, gas filling and sealing, P (2) 33*b*.
manufacture, P (7) 158*a*.
method of coating, P (2) 34*f, g*.
electroluminescent, curved, P (1) 6*f*.
envelope, masking method, P (6) 136*a*.
high pressure mercury, with phosphor coating on jacket, P (2) 32*h*.
incandescent, with coating of porous amorphous silica, P (6) 136*g*.
incandescent, method of making, P (6) 136*g*.
Mo in alloys for, (7) 157*e*.
photoflash, pressure filled, P (5) 112*b*.
slit, adjusting mechanism, P (10) 246*a*.
transfer apparatus, P (2) 33*e*.
W-ribbon filament, relative spectral energy distribution of, (4) 101*b*.
ultraviolet light, casings for, P (2) 32*e*.
Lanthanons. See *Rare earths*.
Lanthanum, additions to thermistor materials, (7) 163*d*.
dicarbide, high-temperature cubic phases, (10) 244*h*.
fluoride, Pu carrier, double decomposition with alkali, P (9) 222*a*.
-$(Mn,Cr)O_3$, neutron diffraction study of magnetic structure, (4) 92*b*.
oxide, and hydroxide, heat of formation of, (5) 125*f*.
in prevention of opalescence in silicate glasses containing fluorides, (1) 4*e*.
as replacement for ThO_2 in optical glasses, (5) 110*j*.
systems. See *Systems*.
vaporization at high temperature by effusion, (6) 149*a*.
Lateritee, formation process, (10) 241*b*.
Lattice constants. See *Crystals, structure*.
Lattice defects. See *Crystals*.
Lava, basic, alteration products of, (3) 72*g*.
Leaching, resistance, of glasses and ceramics containing Sr, (4) 85*g*.
Lead. See also *Glass; Glazes*.
article, glass-reinforced, P (8) 189*e*.
barite concrete brick as substitute in protection against radiation, (5) 113*f*.
chromate, structure of orthorhombic modification, (7) 179*e*.
compounds, dilatometric and X-ray data, (10) 243*j*.
compounds, effect on setting of Portland cement and plaster of Paris, (2) 28*g*.
determination, in solutions, chemical methods, (1) 11*g*.
in glass and enamel, polarographic estimation, (4) 84*j*.
niobate, ferroelectric, X-ray study of phase transitions, (10) 246*b*.
niobate, systems. See *Systems*.
oxide, in enamels for nuclear reactor shields, (8) 187*c*.
and PbF_2, growth of Y–Fe and Y–Ga garnets from molten solutions of, (10) 237*i*.
systems. See *Systems*.
red, effect on chrome alumina pink, (1) 10*h*.
silicate and borate binary melts, volatility of, (11) 254*c*.
stannate, $BaTiO_3$, amplifier elements of, (10) 237*g*.
sulfide, films, deposition on glass, (8) 187*j*.
sulfide, mirrors, P (8) 190*b*.
tantalate, systems. See *Systems*.
telluride, galvanomagnetic effects in *p*-type crystals of, (6) 142*g*.
titanate, ceramics, containing Nb or Ta, (4) 92*f*.
dielectric behavior at low temperature, (1) 12*d*.
systems. See *Systems*.
zirconate ceramics, dielectric breakdown, calculated and experimental values, (4) 92*b*.
zirconate ceramics, domain processes in, (4) 92*f*.
zirconate, antiferroelectric, X-ray and neutron diffraction study, (10) 245*i*.
Lehrs. See *Furnaces, glassmelting; Glassmaking apparatus and equipment*.
Lens, for high frequency radio aerials, P (2) 40*h*.
Light, depolarized components, scattered by glasses, I, II, (3) 56*f*.
scattering, of colloidal silica, (8) 201*a*.
sensitive devices, P (6) 144*i*.
silent electric discharge source, P (10) 246*c*.
transmission, of glasses, effect of radiation, (5) 109*f*.
visible, apparatus for generating by photoelectroluminescence, P (8) 194*j*.
Lighting, of factories, (1) 22*d*.
permanent supplementary artificial, of interiors, (9) 222*e*.
Lime, B (6) 150*e*; (7) 167*b*. See also *Calcium, oxide; Glass*.
ability of trass to "fix," (7) 154*b*.
apparatus for hydrating, P (2) 29*h*.
building, volume stability of, (3) 55*c*.
content, determination in stabilized ferruginous soils, (8) 186*b*.

Lime (*continued*)
dolomitic, simple MgO determination in, (2) 29*e*.
effect on, ceramic bodies, (6) 141*j*.
volume constancy and strength of gypsum, (4) 83*a*.
zirconia refractories, (11) 258*c*.
handling method, P (6) 133*c*.
industry, German, (6) 145*i*.
and lime + MgO, in slagging of mullite refractories, (11) 258*e*.
in magnesite, routine determination, (7) 172*f*.
manufacture, European, (10) 225*j*.
manufacturing apparatus, P (11) 251*j*.
nature and behavior in molten slag, (7) 170*b*.
normal and dolomitic, nonpressure hydrator for, (3) 54*j*.
pressure hydrated, P (2) 29*g*.
quick-, determination of yield by microslaking method, (3) 53*b*.
quick-, mechanism of absorption of SO_2 by, (7) 154*e*.
reaction with chrome ore, (7) 154*g*.
reactivity of, I, II, (8) 201*b*.
refractory, composition, P (11) 252*d*.
for sand-lime brick industry, selection, (3) 54*j*.
solutions, action on anhydrous calcium aluminates at 5°C., (7) 168*i*.
systems. See *Systems*.
in zirconia solid solutions, $\gamma \rightarrow \alpha$ transition in, (7) 173*j*.
Limestone, analysis of Al in, (7) 181*d*.
argillaceous, extraction and flame spectrophotometer determination of Al in, (3) 74*c*.
calcination, apparatus for, P (11) 252*c*.
Linings. See *Mills; Refractories*.
Liquids. See also *Fluids*.
apparatus for mixing or blending, P (1) 14*h*.
apparatus for removal from glass plates, P (11) 256*i*.
atomic structure of, (10) 229*c*.
density, suspended plummet method of measurement, (7) 180*b*.
density and viscosity, effect on sedimentation volume of powders, (5) 124*j*.
dielectric, electric strength and high-field conductivity of, B (11) 274*d*.
dielectric determination of water in, (9) 219*a*.
mixed, sorption by montmorillonite, (5) 125*h*.
mixtures, estimation of viscosities, (7) 173*d*.
mobility of molecules in, near glass temperature, (7) 175*g*.
molecular transport in, (5) 110*f*.
Newtonian, study of oscillating cylinder viscometer for, (10) 240*a*.
pressurized mixtures, for temperature sensing, P (11) 267.
sedimentation rate of powdered materials in, (5) 127*d*.
state, silica phases in, (7) 175*i*.
transport mechanism in, B (11) 274*d*.
viscoelastic, dynamic viscosity and rigidity of, (11) 271*e*.
Lithia. See *Lithium, oxide*.
Lithium, additions to fused silica, (9) 208*j*.
aluminosilicates, condition of formation, (11) 271*b*.
fluoride, plastically deformed, X-ray properties, (7) 181*h*.
refractive index of, anomalies in, (6) 148*g*.
systems. See *Systems*.
temperature dependence of strain at fracture, (7) 169*j*.
hydroxide, recovery from Li phosphates, P (8) 199*c*.
indate, properties of, (5) 126*i*.
minerals, as fluxes, (6) 145*j*.
nitride, preparation, P (5) 121*j*.
oxide, -alumina-silica compositions, thermal expansion of, (2) 48*g*.
dissolved, lattice parameter of NiO as function of, (5) 125*d*.
effect on tridymite formation, (1) 19*j*
in enamels for nuclear reactor shields, (8) 187*c*.
evaporation from solid solution of Li_2O in nickel oxide, (4) 101*c*.
flame photometric determination in glasses, (2) 31*a*.
NiO-, solid solution formation, time dependence of, (3) 78*h*.
systems. See also *Systems*.
systems, studies in, VII, (2) 48*c*.
recovery process, P (7) 168*a*.
sublimation from Li-Ni ferrite, (11) 263*g*.
sulfate, production from β-spodumene, P (6) 146*g*.
Loading rate, vs. rupture modulus, (1) 15*e*.
Lubricants, for dry presses, effect on pressure requirements, (9) 215*i*.
glass, as aid in high temperature forming, (11) 253*j*.
graphite, characterization by coagulation and electrophoresis, (2) 44*d*.
graphitic chalcogenides as, (7) 180*j*.
greases, high temperature water resistant, P (1) 18*g*.
high temperature water resistant, P (1) 18*g*.
for improving plasticity of alumina slip, (11) 268*i*.
synthetic high temperature, in kiln car lubrication, (10) 240*f*.
system, for crusher bearings, P (4) 99*g*.
Lucalox, dense material from Al_2O_3 powder, (1) 22*b*.
Luminescence, analysis, for investigating refractories, (2) 37*a*.
cando-, excitation in crystalline phosphors, (9) 214*i*.
decay time, of ruby, investigation of spectral distribution by pulse taumeter method, (7) 174*j*.
electro-, single crystal, P (8) 195*g*.
electro-, of ZnS-Cu-Mn phosphors in a constant field, (9) 213*j*.
Luminescence (*continued*)
low temperature, of ZnO in red region of spectrum, (9) 214*c*.
multiband, in BN, (3) 65*c*.
photoelectro-, apparatus for generating visible light by, P (8) 194*j*.
of KI:Tl, induced by far ultraviolet light, (2) 39*f*.
red, of quartz, (3) 77*g*.
thermo-, of glasses, (4) 85*f*.
of minerals, apparatus for study, (3) 73*a*.
properties of calcite, (9) 221*i*.
of rocks and minerals, I, (7) 181*f*.
in study of lattice defects in alumina ceramics, (10) 243*f*.
of vitreous GeO_2 containing Al, (9) 208*c*.
Luminescent materials, artificial, P (5) 117*c*.
in Canada balsam in thin section texture study of fire-clay brick, (4) 88*h*.
with coating of Zr phosphate, P (5) 117*d*.
electro-, cells, P (2) 40*e*; (7) 156*b*; P (10) 238*a,j*.
coating, P (5) 117*g*.
device, with BN, P (6) 143*f*.
device which emits light over predetermined parts, P (5) 117*g*.
element of, P (4) 93*j*.
phosphors, P (5) 117*h,i*.
preparation of layers, P (9) 215*b*.
red, P (2) 46*a*.
Luminous materials, preparation and determination of β-radioactivity, (3) 65*a*.

Machinability, study, of ceramic tools, IV, (7) 153*e*.
Machinery and equipment. See also *Materials handling* and specific types.
in Carborundum plant making Monofrax, (11) 264*h*.
for cement production, comprehensive study, (3) 55*d*.
for ceramic research, (7) 178*j*.
for compressing finely divided solids by use of gaseous fluid, P (2) 41*h*.
for filling and compacting dust-forming solids, P (2) 41*j*.
hoppers, for conveying bulk material, P (7) 165*b*.
Magnesia. See also *Magnesium, oxide; Refractories*.
aqueous slip casting of, (3) 61*j*.
in cement, relation to expansion and cracking, (3) 53*d*.
clinker, for basic refractories, rapid analysis by EDTA method, (11) 259*c*.
crystal size, in periclase, (8) 192*e*.
determination, accelerated method, (11) 270*d*.
dislocations, generation by electric field, (10) 244*f*.
from dolomite, P (4) 100*f*.
in dolomitic limes, simple determination, (2) 29*e*.
effect of impurities and heat-treatment on ductility, (6) 147*g*.
effect on SiC oxidation, (10) 234*j*.
factors affecting transition temperature, (7) 169*j*.
heats of solution, X-ray study of factors causing variation in, (10) 246*a*.
hydrated, method for obtaining from magnesite ore, P (1) 17*g*.
nature and behavior in molten slag, (7) 170*b*.
photoinduced Hall effect in, (4) 101*b*.
production from kieserite roasting residues, (6) 146*a*.
reactions with glass powder mixtures, (10) 228*j*.
sea-water, in forsterite porcelain bodies, (4) 90*f*.
single crystals, in compression, mechanical properties of, (8) 201*a*.
flow of, (10) 244*e*.
transparent crucibles for observing at high temperatures, (7) 161*e*.
sintered, German and Austrian patents, (2) 36*j*.
systems. See *Systems*.
temperature dependence of electron-bombardment-induced conductivity in, (4) 92*k*.
thermal conductivity from 1030° to 1880°C., (2) 48*f*.
thermal conductivity, reanalysis of data, (3) 75*h*.
thin films, secondary electron emission from, (7) 178*g*.
in zirconia solid solutions, $\gamma \rightarrow \alpha$ transition in, (7) 173*j*.
Magnesiowüstite, structure and magnetic susceptibility of, (5) 125*g*.
Magnesite. See also *Refractories*.
determination of lime in, (7) 172*f*.
inserts, for steel-pouring nozzles, (6) 139*f*.
open-hearth fettling powders, granulation of, (2) 35*g*.
ores, beneficiation of, P (1) 17*g*.
as refractory material, history of, (1) 17*j*.
Magnesium, aluminate, systems. See *Systems*.
-Al oxides and silicates, physical properties and bond type, (3) 77*b*.
-bearing brines, processing method, P (6) 140*g*.
Ca-, carbonates, relation between lattice constants and composition, (3) 77*h*.
-Ca fluorophosphate, P (6) 136*i*.
cement, in fibrous panels, steam treatment of, P (11) 252*b*.
content, of carbonate rocks, relation to insoluble residue, (7) 174*c*.
determination, in cement, using Norelco Autrometer, (7) 171*h*.
determination, by spectrophotometry, (2) 47*e*.
effect on decomposition of Fe_2O_3, (11) 271*a*.
extraction from sea waters with milk of lime, P (10) 235*f*.
fluoride, crystallized from melt, properties of, (9) 220*j*.
fluoride, systems. See *Systems*.
in glass, determination by flame photometry and spectrograph, (1) 4*g*.
lithium arsenate, in red luminescent material, P (2) 46*a*.
Magnesium (*continued*)
-Mn, ferrite, reproducible, preparation of, (3) 65*e*.
metasilicate, thermal properties of, (7) 179*h*.
oxide. See also *Magnesia*.
adherent film, method of forming, P (10) 227*a*.
coating integrating spheres with, (2) 31*c*.
crystals, study of individual dislocations by microradiography, (9) 221*b*.
crystals, weak lines in paramagnetic resonance spectrum of, (9) 221*a*.
electron microscope studies of shapes, (4) 81*g*.
fused particles in heat resistant composition, P (9) 212*a*.
and hydroxide, band spectra between 400° and 3600 a.u., (9) 218*j*.
in silicate glasses, (3) 56*i*.
single crystals, ductility of, (9) 219*e*.
single crystals, temperature dependence of plastic yield stress, (11) 272*c*.
slip casting slurry, P (2) 37*f*.
oxychloride, in cement composition, P (10) 226*c*.
in rocks, rapid photometric determination, (4) 101*c*.
silicate, ceramics, manufacture from kieserite, (1) 17*a*.
silicate, systems. See *Systems*.
substitution for in titanium spinel pigments, (4) 84*c*.
systems. See *Systems*.
triclinic pyroborate, crystal refinement, (4) 101*d*.
-vermiculite, crystal structure of 14.36 a.u. phase, (3) 76*c*.
Magnetic field, fluctuation effects in Ni-Zn ferrites, (4) 92*a*.
Magnetic materials. See also *Ferrites; Ferromagnetism and ferromagnetic materials*.
ceramic, VI, (1) 12*e*.
for computer components, (1) 12*i*.
electromagnetic wave transmission system, P (11) 264*f*.
impulse record carriers, P (10) 238*d*.
miniature cores, testing and sorting device, P (6) 143*e*.
nondestructive testing, for coercive force, P (1) 15*g*.
for recording members, alkali metal modified ferromagnetic Cr oxide as, P (6) 143*a*.
sheet, method of coating, P (3) 66*h*.
solid state devices, B (5) 130*h*.
treatment of articles from, P (1) 13*j*.
Magnetic moment, of Mn ferrite, (4) 91*j*.
Magnetic properties, aftereffects, in MgMn ferrites, (9) 214*d*.
annealing, effect in α-Fe_2O_3, (3) 64*g*.
of commercial ceramic products, (2) 40*f*.
of ferrites, relation to structure, (9) 213*j*.
galvano-, effects in p-type crystals of PbTe, (6) 142*g*.
of garnets, (1) 13*d*.
of glasses containing Mn, (5) 110*j*.
of graphite, (2) 39*g*.
of hematite single crystals, (1) 13*e*.
interactions, and ion distribution in garnets, (10) 237*b*.
of iron-containing glasses at low temperature, (3) 56*j*.
of $FeTiO_3$ and $NiTiO_3$, (6) 142*e*.
magnetostrictive effects, in antiferromagnetic hematite crystal, (7) 174*f*.
of MnTe, (6) 142*j*.
measurement at high temperature, B (6) 152*d*.
of Ni-Fe ferrite, (1) 12*f*.
of nickel telluride, (3) 64*j*.
paramagnetic resonance, of Yb^{3+} in Al and Ga garnets, (10) 237*d*.
of perovskites containing Sr, I, (3) 65*b*.
of perovskite-type compounds, neutron diffraction study, (3) 76*a*.
of polycrystalline materials, B (6) 150*j*.
rotational losses, in ferrites, measurement at very low frequencies, (1) 12*i*.
saturation, and structure, of γ-Fe_2O_3, (2) 46*h*.
of spinels, semicovalent exchange mechanism, (3) 78*b*.
of square-loop materials in ferrite systems containing copper, (1) 13*c*.
of substituted Mn-Sn spinels, (1) 12*g*.
susceptibility, of NiO and CoO single crystals, (2) 40*a*.
of rutile, anatase, and brookite, (7) 174*c*.
in study of action of halogens on graphite, (1) 20*e*.
in study of chlorographite, (1) 19*i*.
in system $FeO_{1+x} \cdot MgO (0 < x < 0.5)$, (5) 125*g*.
transitions, in Ti_2O_3 and V_2O_3, (9) 214*e*.
of VO_2 and VO_2-TiO_2 solid solutions, (5) 125*d*.
Magnetism, cooperative, in oxide structures, II, (2) 39*f*.
dia-, of graphite, (3) 64*h*.
magnetic measurements, of microscopic ferrite particles near single-domain size, (11) 263*b*.
of KCr_3O_8, (5) 125*g*.
of rocks, exchange anisotropy in, (9) 213*i*.
Magnetite, crystal, heat capacity at liquid He temperatures, (2) 47*i*.
dispersed fine-particle, precipitation of, (9) 214*g*.
nonstoichiometry at high temperatures, (7) 180*d*.
particles, in well drilling mud, P (10) 243*a*.
precipitation from mixed solution of ferrous and ferric ions, (5) 116*h*.
single crystal, magnetization near Curie point, (11) 263*c*.
Magnetization, of magnetite single crystal near Curie point, (11) 263*c*.
re-, experiments in $Mn_{1+x}Fe_{2-x}O_4$, (1) 13*b*.
remanent, of hematite powder, magnetic model, (1) 13*e*.
Magnetochemistry, in study of action of halogens on graphite, (1) 20*e*.
of uranium(V) compounds, (1) 20*f*.

Magnetometers, proton, for detecting archeological remains, (3) 52*c*.
vibrating-coil, use in evaluation of Ni ferrite forming methods, (1) 12*e*.
Magnetoplumbite, in system La_2O_3–iron oxide in air, (8) 201*h*.
Magnetostriction, of Ga iron garnets, (10) 237*c*.
Magnets, anisotropic permanent, method of magnetizing, P (7) 164*a*.
for collecting magnetic susceptible material, P (2) 41*g*.
cores, with rectangular hysteresis loop, P (4) 93*h*.
electro-, in electrical working of glass, P (2) 32*j*; P (2) 33*a*.
ferrite, effect of solid state reaction on sintering of, (7) 163*e*.
permanent, P (7) 164*b*.
anisotropic, P (1) 13*d*.
anisotropic, device for molding, P (3) 65*f*.
behavior of, (2) 40*f*.
wire, selection of enamels for, (4) 83*j*.
Majolica, of Deruta, development, (5) 106*a*.
18th century, of Pesaro, (5) 105*j*.
faience, history and imitation of, (5) 106*b*.
Hungarian, "Habana" in 16th and 17th centuries, (1) 1*j*.
Italian, Ford collection, (2) 28*c*.
Management, human guidance by, (9) 222*e*.
problems affecting people, (5) 129*h*.
relation to automation problems, (9) 222*g*.
stepping into, (1) 22*f*.
Manganese, addition to ZnO, effect on luminescence, (9) 214*c*.
dioxide, effect on firing range of synthetic diopside porcelain, (3) 64*c*.
effect on glass decolorization, magnetic and spectrophotometric studies, (5) 110*j*.
ferrite, cation distribution and magnetic moment of, (4) 91*j*.
neutron diffraction study, (4) 101*d*.
remagnetization experiments, (1) 13*b*.
ions, in ferrospinels, valence and distribution, (9) 214*j*.
Fe-, deposits, in cherty rocks, cherty nodules in, (1) 17*g*.
Mg-, ferrite, reproducible, preparation of, (3) 65*e*.
$Mn_2P_2O_7$, as binder for friction material, P (2) 37*e*.
ores, Indian, types of jacobsite in, (3) 79*a*.
oxide, effect on cubic-hexagonal transition point of $BaTiO_3$, (7) 171*f*.
oxide, systems. See *Systems*.
precipitation, in silicate rock analysis, (9) 220*f*.
simple reduction determination, (11) 271*g*.
sulfide, segregation, effect on enameling of gray cast iron, (9) 205*c*.
systems. See *Systems*.
-Sn substituted spinels, magnetic properties, (1) 12*g*.
telluride, magnetic and electrical properties of, (6) 142*j*.
Manganites, perovskite-type, theory of role of covalence in, (3) 78*d*.
Marcasite, DTA of, (3) 74*c*.
Marls, Etruria, compositional variation, (6) 145*j*.
Masonry, ASTM Standards, B (2) 49*d*.
brick, effect of silicone pretreatment and wetting of brick on moisture penetration, (11) 257*j*.
lime-slag cement for use in, V, (9) 204*c*; VI, (11) 251*g*.
sales, in Connecticut, (1) 7*b*.
saws. See *Saws*.
walls, curved, guide for, P (7) 159*h*.
Materials, apparatus for testing by thermal differential method, P (11) 267*i*.
ceramic, for cutting tools, (11) 249*e*.
directory of, (3) 79*h*.
engineering, handbook, B (1) 23*f*.
engineering, predictions for, (6) 149*h*.
modern, development and application, addendum, B (3) 80*i*.
new, description and uses, B (1) 24*i*.
requirements for thermal protection systems, (6) 149*i*.
science, elements of, B (4) 104*b*.
strength of, B (1) 25*h*.
transport, in rotary cement kiln, study by radioactive isotopes, III, (6) 132*h*.
Materials handling. See also *Conveyers; Feeding apparatus; Machinery and equipment*.
apparatus for indicating height of material in storage space, P (11) 266*b*.
of brick, method of hacking, P (11) 258*a*.
at Carborundum plant, (11) 264*h*.
carloading, proper methods, (4) 103*b*.
equipment, for lime plant, (4) 82*j*.
equipment and procedure for palletized loading and shipment of refractory products, B (2) 50*h*.
evacuation of air from bag for filling, P (10) 241*b*.
filling of bags, process for de-aerating, P (6) 146*a*.
fluidized, of alumina powder, (7) 166*j*.
of lightweight aggregates, (1) 7*e*.
measuring level of stored materials, sonic apparatus for, P (10) 242*i*.
palletized bag squeezing machine, P (5) 121*d*.
pallets, P (5) 121*d*.
pallets, lifting skid, for stacked products, P (4) 99*f*.
of pellets, from one level to another, P (4) 95*a*.
unloader, for boxcars, P (10) 241*g*.
Measurement, property, at high temperatures, B (6)152*d*.
Mechanical behavior, of ceramics, literature on, (6) 148*g*.
Mechanization, in brick industry, economics of, (1) 7*g*.
of equipment for producing sheets of mosaic tile on paper, (5) 115*h*.
Meetings. See also *Conferences*.
international, report on three, (11) 273*f*.
Melting, of compounds without decomposition, P (8) 202*a*.
of crystals and glasses, structural changes during, (7) 157*g*.
points, measurement, in determination of phase diagram of system BaO–Fe_2O_3, (4) 101*h*.
Melts, lead silicate and lead borate, volatility of, (11) 254*a*.
Mn-Fe-Si, equilibrium measurements with CaO-MnO-SiO_2 slags, (7) 172*i*.
supercooled, theory of crystal growth in, (10) 245*e*.
Memory device, ferroelectric element for, P (1) 13*c*.
Metallizing. See *Coatings*.
Metalloceramic compositions. See *Cermets*.
Metallography, techniques, for enameled steel, (2) 30*i*.
Metallurgy, powder. See *Powder metallurgy*.
process, for altering TiO_2, P (8) 198*g*.
progress in nuclear energy, B (5) 130*j*.
smelting, isotopes in study of dynamic characteristics in blast furnace, (2) 45*b*.
Metals. See also *Enameling metals; Rare earths*.
adherence of enamels, nature of, (1) 3*g*.
alkaline, position in beryl structure, (9) 220*d*.
alkaline cleaning, I, (4) 83*g*.
apparatus for testing, P (5) 119*d*.
aqueous emulsions, as coatings for glass fibers, P (3) 59*f*.
carbide, sintered alloy, P (10) 234*h*.
-ceramic materials. See *Cermets*.
coated, corrosion- and abrasion-resistant, P (3) 55*h*.
coated sheet stock, machine for drying, P (3) 69*h*.
compounds, factors affecting reducibility, (9) 219*f*.
degassing of, (11) 273*a*.
for electron tubes, B (7) 183*c*.
elements, sintering of, P (7) 162*b*.
elongate work, apparatus for heating, P (8) 197*g*.
enameling, measurement of dry drawing lubricants on, (2) 30*j*.
enamels-, reaction kinetics of, (6) 134*a*.
ferrous, ZrC protective coating for, P (7) 155*h*.
fusing to glass articles, P (1) 6*f*.
on glass, condensation energy for, (7) 170*j*.
glass reinforced, P (8) 189*e*.
heat-treating with oxidation scale inhibitor, P (1) 4*h*.
high-melting, behavior in alkaline tripotassium hexacyanoferrate(III) solutions, (5) 123*g*.
for high vacuum technique, B (7) 182*i*.
hollow article, corrosion protective glass coating for, P (7) 155*i*.
light, enamels for, P (7) 156*a*.
noble, in high temperature thermocouples, (9) 216*i*.
oxides, coatings, application with electrostatic field, P (1) 4*a*.
in dental cements, P (9) 205*a*.
measurement of apparent temperatures in solar furnace, (2) 46*c*.
mixed, structure and properties, B (9) 224*i*.
powdered, slip casting of, (4) 88*h*.
preparation for enameling, B (2) 50*d*.
rare-earth and yttrium, structure and properties, (7) 161*a*.
refractory, bodies, P (7) 161*h*.
sheet, annealed above 550°C. in CO and/or H_2, enameling of, (11) 252*f*.
sheet, for high temperature service, (2) 35*f*.
and slags, electrocapillary phenomena for compositions of, (2) 35*f*.
S determination in, by microanalysis, (9) 220*i*.
thermal conductivity of, measurement to 1200°C. (3) 68*d*.
-UO_2 mixtures, warm pressing of, (4) 89*c*.
welding, high frequency resistance, (5) 108*h*.
yearbook, metals and minerals, B (7) 183*i*.
Metathesis. See *Double decomposition*.
Methylene blue, adsorption, by kaolinite, (6) 147*d*.
adsorption, in estimation of montmorillonite surface area, (6) 147*e*.
Mica, (7) 167*b*. See also *Vermiculite*.
block and film, fabricated in second half of 1959, (11) 268*a*.
classification, rapid, on basis of electric properties, (10) 237*e*.
in electron tubes, B (7) 183*c*.
expandable clay minerals from, effects and geologic significance of K fixation, (3) 74*i*.
and feldspar, reactions with water at low temperature and pressure, B (9) 223*e*.
fluorphlogopite, thermodynamic properties, (2) 47*h*.
glass-bonded, properties of, (6) 142*i*.
hydromuscovite, with $2M_2$ structure from Tasmania, (6) 148*c*.
Indian, classification on basis of power factor, (3) 70*b*.
Indian, electric properties of, (3) 70*c*; (4) 98*f*.
insulation, flexible bonded, P (11) 263*j*.
-kaolinite-quartz mixtures, mineralogy and ceramic properties, (3) 75*h*.
-kaolinite-quartz mixtures, reactions compared with K_2O–Al_2O_3–SiO_2 equilibrium diagram, (11) 270*f*.
minerals, cation-exchange capacity, (10) 243*j*.
muscovite, decomposition products, (11) 270*f*.
oriented overgrowth of Pt crystals on, (9) 220*j*.
structure, (7) 179*d*.
natural and synthetic, hardness of, (3) 75*c*.
paper, composite, with mica flake electrical insulating material, P (5) 117*e*.
impregnated, as insulator, (10) 237*h*.
impregnation with alkyl orthotitanate, P (11) 264*a*.
Mica, paper (*continued*)
with improved tensile strength and moisture resistance, P (11) 264*d*.
making moisture resistant, P (5) 118*a*.
preparation, P (4) 94*i*.
plate stacking system, P (9) 214*h*.
press ram, with hydraulically operated punch and stripper, P (4) 94*j*.
production, in 1958, (5) 120*i*.
pulp, production, P (4) 100*a*.
structural control of polymorphism in, (8) 201*h*.
synthesis, experimental studies, B (9) 223*c*.
synthetic, in ceramoplastic for use at 750°, (3) 64*f*.
manufacture of, P (6) 146*b*.
reconstituted, P (9) 218*f*.
Micrographs, electron, of asbestiform minerals, (6) 145*i*.
electron, of MgO–SiO_2–H_2O system, (11) 272*i*.
Microhardness. See *Hardness*.
Micronizers. See *Crushing and grinding apparatus*.
Microphotography. See *Photography*.
Microradiography. See *Radiography*.
Microscopes, design, for high temperature work, (6) 144*i*.
electron, in study on aging of $Al(OH)_3$, (5) 125*a*.
study of Brazilian kaolins, (5) 121*c*.
in study of epitaxial growth, (10) 244*f*.
in study of hardened gypsum, (7) 154*j*.
in study of morphology of Al hydroxides, (5) 124*g*.
in study of mullite, (5) 124*i*.
in study of mullite development in fired kaolinites, (8) 200*b*.
in study of tubular kaolin crystals, (7) 173*h*.
electronic, for top illumination of surfaces, P (7) 166*a*.
emission, (10) 240*a*.
heating, for control of glassmelt, (3) 56*c*.
for high temperature studies, (4) 96*h*.
low power, use of graticule on glass plate for macropoint counting with, (6) 148*h*.
metallurgical, in examination of enamel-metal systems, (2) 30*i*.
phase and interference, measurement with, B (5) 130*i*.
polarization, nomograms for, I, (8) 197*a*.
X-ray reflection and diffraction, P (7) 160*c*.
Microscopy. See also *Diffraction*.
analytical, B (1) 22*g*.
of cement clinkers, (3) 54*h*.
in determination of phase diagram of BaO–Fe_2O_3, (4) 101*h*.
electron, of glass surfaces, structural implications, (2) 32*a*.
in study of internal structure of borosilicate glasses, (1) 4*g*.
in study of porcelain and $BaTiO_3$, (1) 19*h*.
of twinned quartz, method for orienting replicas, (3) 76*e*.
high-temperature, principles of, (6) 144*i*.
interference figures, isogyres as replacement for skiodromes, (3) 75*i*.
of ores, B (3) 80*c*.
preparation of polished surfaces for, I, II, (7) 177*c*.
studies, high temperature, filament furnace for, (2) 42*j*.
of system BeO–TiO_2–ZrO_2, (11) 270*j*.
of system SrO–Al_2O_3, compounds in, (11) 272*a*.
symposium on, B (5) 130*i*.
thin section, fusion method for determination of plagioclase feldspar from, (3) 77*f*.
thin section, low magnification photography in, (7) 174*d*.
new cement for preparing, (6) 148*i*.
in study of texture of fire-clay brick, (4) 88*h*.
Microstructure. See *Structure*.
Mikrolit. See *Corundum*.
Milling. See *Crushing and grinding*.
Mills. See also *Crushing and grinding apparatus*.
ball, P (8) 196*d*.
efficiency of, (6) 132*j*.
end liner for, P (8) 196*c*.
Hyswing, stainless steel, (1) 14*f*.
with internal venting device, P (8) 196*g*.
with rubber lining, (4) 95*c*.
and tube, liners for, P (11) 265*h*.
blending, liquid feed, P (4) 95*b*.
blending and heat exchange, P (5) 118*e*.
colloidal, P (5) 121*h*.
disk, P (9) 216*a*.
dispersion, high-intensity, for improving plasticity of clay, (3) 63*i*.
granulating, and colloid, P (2) 42*d*.
grinding, for dry materials, air systems for, P (4) 98*j*.
grinding, vibrating, prevention of grinding media tracking and excessive mill water, P (4) 100*g*.
high-intensity dispersion, for homogenizing plastic whiteware batches, (11) 261*h*.
impact, P (8) 198*f*.
metal powder rolling, feeding chute for, P (5) 121*i*.
particle, construction, P (5) 121*e*.
pellet, for carbon black, water spray in, P (11) 270*a*.
pug, increase in output of kaolin suspensions and earthenware bodies by addition of bentonite and peptizers, (5) 115*c*.
pulverizing, and process, P (5) 122*d*.
roller, for granular material, P (7) 165*c*.
rotary, hammer with removable tip for, P (10) 241*g*.
rotary pulverizer, with flat face stator bars, P (5) 122*h*.
tube, for cement industry, history and patent literature, (11) 265*b*.
tube, nomogram for approximate calculation, (1) 14*e*.
tumbling, for autogenous grinding, (4) 95*a*.

Mills (*continued*)
"Vibro-Energy," for ultrafine grinding, (6) 144*c*.
Mineral fibers. See *Asbestos; Glass, fibers; Mineral wool*.
Mineralizers. See also *Fluxes*.
composition of, dependence of phase composition of silica on, (9) 210*i*.
effect on properties of Dinas brick, (6) 138*f*.
Mineralogy, applications of electron diffraction to, (3) 76*f*.
of clays of Japan, B (4) 104*b*.
composition, of silica refractories, relation to thermal expansion, (11) 259*f*.
of Indian clays, (7) 175*f*.
optical, of ores, B (3) 80*c*.
Minerals. See also *Raw materials; Rocks;* and specific types.
admixtures, evaluation for prevention of excessive concrete expansion, (3) 53*a*.
African deposits, (11) 268*b*.
analysis, quantitative, with counter goniometer, (3) 68*j*.
analysis, use of ion exchange resins, (3) 78*j*.
asbestiform, electron micrographs of, (6) 145*i*.
beneficiation, electrostatic method, P (1) 18*d*.
carbonate, identification by staining methods, (7) 173*e*.
clay. See *Clays*.
clinker, of Portland cement, effect on properties of steam-treated concretes, (3) 53*f*.
collector for removing from fluid, P (8) 199*a*.
content, of raw materials and of brick and cement, (3) 68*e*.
deposits, in South Africa, (8) 198*e*.
differentiation of H_2O molecules and OH groups, (10) 227*i*.
facts and problems, (7) 167*b*.
1960, (11) 268*d*.
preprints, (6) 146*b*.
formation and reactions, B (10) 248*g*.
grinding plant, for pyrophyllite company, (11) 273*f*.
industrial, B (6) 150*e*.
industrial, future development in Alberta, (6) 149*j*.
kyanite-related, in 1959, (11) 268*a*.
method for dissolving, (7) 175*h*.
multiple oxide, separation of rare earths and Th from, (9) 220*i*.
new uranous phosphate, from Japan, (6) 148*j*.
nonmetallic, minor, (6) 145*h*.
nonmetallic, pellet-spark technique for spectrochemical analysis, (7) 179*e*.
opaque, study of in reflected light, B (5) 130*i*.
orthorhombic and uniaxial colorless, detection of zoning in, (7) 171*h*.
paragenesis, physicochemical basis of analysis, B (10) 247*e*.
phyllitic, effect of structure and texture on properties of, (5) 124*e*.
powdered, effect on drying shrinkage of Portland cement paste, (3) 53*i*.
production, in Illinois in 1958, (8) 198*i*.
raw materials, concentrating and classifying, P (1) 18*c*.
rock, thermal study, III, (11) 272*e*.
slurries, aqueous, method of increasing fluidity, P (2) 29*c*.
thermoluminescence of, I, (7) 181*f*.
thermoluminescence of, apparatus for study, (3) 73*a*.
trace elements in, matrix corrections in X-ray spectrographic analysis, (3) 75*j*.
X-ray fluorescence analysis, (7) 181*f*.
yearbook, metals and minerals, except fuels, 1958, area reports, B (7) 183*i*.
Mineral wool. See also *Glass, fibers*.
manufacture by blast technique, (11) 264*h*.
rock, slag, and glass, B (6) 150*e*.
from volcanic ash, (10) 228*i*.
Mines and mining, of clays, machinery for, B (1) 25*j*.
electric power distribution for, (3) 71*e*; (4) 98*h*.
of Huichapan region, (2) 44*h*.
Karlsbad mines, origin of kaolin and clay deposits in, (3) 70*f*.
rotary excavator and staged conveyer swing chute for winning clay, (1) 17*h*.
Mirrors, estimation of silver on, electrical method, (5) 110*e*.
glass, lead sulfide, P (8) 190*b*.
glass, silvering of, P (2) 34*c*.
for high frequency radio aerials, P (2) 40*h*.
parabolic, for solar furnace, (1) 16*a*.
Mixers, agitator and additive feed, P (3) 67*i*.
dry pan, multiple stage, P (10) 239*g*.
for liquid, pulpy, powdery, granular, or fibrous materials, P (1) 14*h*.
for mixing and comminuting materials, P (11) 266*a*.
with open apex and hollow side legs, P (2) 42*f*.
proportional, for combining gaseous fuel and air, P (3) 69*i*.
with rotary blade, P (2) 42*a*.
vacuum, new principle, use in roofing-tile plant, (3) 60*c*.
Mixing, effect on workability and strength of concrete, (5) 106*j*.
water, determination by Pfefferkorn method, use in process control, (3) 67*c*.
Mobility, of molecules in liquids near glass temperature, (7) 175*g*.
Models, as aid in kiln design, (3) 69*j*.
for fine ceramic industry, casting resins in, (8) 194*c*.
Modulus of elasticity. See *Elasticity*.
Modulus of rupture. See *Rupture*.
Moisture. See also *Humidity; Steam; Water*.
automatic indicator, (9) 216*f*.
content, effect on density of unfired and grog refractories semidry pressed, (9) 210*j*.
Moisture, content (*continued*)
effect on properties of asbestos-cement sheets, (2) 28*f*.
effect on properties of heavy clay products, (9) 210*c*.
of soil, device for measuring and regulating, P (3) 68*j*.
effects on thermal conductivity of soils, (7) 170*f*.
expansion, and movement, of structural clay products, (9) 210*c*.
expansion, of structural clay products, (1) 7*c*.
measuring system, P (5) 119*g*.
method and apparatus for continuous measurement, P (5) 119*c*.
penetration, of brick masonry, effect of silicone pretreatment and wetting of brick, (11) 257*j*.
in raw materials, effect on grinding-drying constants, (3) 67*f*.
redistribution, in plastic clay during storage, (7) 175*j*.
in sinter mix, automatic measurement and control, P (8) 196*g*.
Molding, of blocks from slurry, P (2) 42*a*.
injection, of ceramics, I, II, (11) 268*h*.
injection, of nonplastic ceramic materials, (3) 67*e*.
machine, rotary, P (6) 144*c*.
method and means, P (6) 144*b*.
properties, of clay-bonded sand, control by green strength and shatter tests, (1) 8*a*.
of refractory brick, with metallic plates, P (2) 37*i*.
Molds. See also *Slip casting; Slips*.
for anisotropic permanent magnets, P (3) 65*f*.
for artware, instructions and equipment for making, (7) 153*j*.
bending, for glass, P (7) 158*c,d*.
bending, for sintered compact of powdered material, P (11) 260*f*.
block graphite, for continuous casting, P (11) 260*c*.
case, P (8) 196*e*.
casting, for ceramic glove dipping form, P (10) 236*f*.
for fusible pattern, P (7) 161*h*.
investment materials for, P (4) 89*a*.
pattern and process, P (4) 89*g*.
for casting glass, P (6) 137*b*.
ceramic, for casting C-containing alloys, P (11) 260*d*.
ceramic shell, strength of, (7) 161*a*.
construction, P (8) 193*c*.
charges, of plastic glass, shears for severing, P (6) 137*b*.
cores for. See *Cores*.
for cup handles, (4) 90*e*.
dinnerware, machine for charging, P (3) 64*d*.
fluid release of ware from, P (1) 14*f*.
fluted tread, (8) 185*h*.
foundry, applications of coatings to improve thermal shock resistance, P (3) 62*j*.
foundry, binder for, P (7) 161*h*.
foundry sand, alkali metal silicate binder for, P (3) 62*d*.
glass, apparatus for guiding mold charges into, P (4) 86*a*.
cooling means, P (2) 33*g*.
cooling system for, P (7) 158*g*.
glass bending, P (5) 111*j*; P (8) 189*g*; P (10) 230*g*.
with heat abstractor, P (10) 231*a*.
sectionalized, P (5) 111*c*.
use of stain for aligning sheets of glass, P (10) 231*b*.
glass container, study of materials for, I–III, (9) 207*a*
grab, P (3) 59*g*.
-hardness, measurement and testing equipment, (1) 15*f*.
investment, for precision casting, P (7) 161*b,c*.
making, IV, V, (9) 213*g*; VI, VII, (11) 261*j*.
for bone china, (11) 250*c*.
organic compounds in preparing blocks and cases for, (3) 71*a*.
metal casting, composition, P (11) 261*c*.
metal casting, lost wax process, P (11) 260*d*.
plaster, for casting, dimensional changes during heating, (8) 186*b*.
improving quality, (8) 194*b*.
making of, (6) 141*d*.
for plastic clay bodies, P (7) 164*j*.
for precision casting, P (8) 193*e*.
for ramming plungers and bushings, improved construction, (6) 138*b*.
refractory, for high temperature use, P (5) 114*d*.
ring, for casting glass telescope disks, P (9) 210*a*.
shell, carbon-free, P (8) 192*b*.
for casting metal, P (11) 261*g*.
ceramic, improvements, (8) 191*b*.
composition and manufacture, P (4) 90*a*; P (11) 261*d*.
for investment casting, P (11) 260*e*.
making and drying, P (8) 192*h*.
reinforcing thin walls, P (11) 261*e*.
self-lubricating, P (7) 161*j*.
for Ti casting, II, (10) 233*c*.
Molecular transport, in liquids and glasses, (5) 110*f*.
Molybdenum, catalysts. See *Catalysts*.
disilicide, heating elements, for temperatures to 1700°C., (8) 197*i*.
improving high-temperature strength, P (2) 37*h*.
as resistor material, P (2) 37*d*.
oxide, systems. See *Systems*.
reduction of MoO_3 and oxidation and nitridation, (5) 128*h*.
refractory bodies, with B and Si, P (5) 108*h*.
in refractory metal body, P (7) 161*h*.
in UO_3, spectrophotometric determination of microgram quantities using dithiol, (4) 101*j*.
Molybdenum (*continued*)
use in glass industry, (7) 157*e*.
Monazite, analysis, use of ion-exchange method of Th separation, (9) 220*c*.
comparative study of, (6) 147*j*.
Montmorillonite, acid suspensions, conductometric titration, (5) 123*i*.
adsorption, of organic material in relation to water content, (3) 72*i*.
aromatic amine derivatives of, (6) 147*e*.
content, in clays, effect on use in ladle brick and lining, (2) 35*j*.
dilute dispersions, flow properties, (9) 223*j*.
DTA between 0° and −195°C., (7) 172*a*.
DTA curve, II, (7) 175*b*.
factors effecting maximum hydrothermal stability in, (3) 74*d*.
inorganic-organic cation exchange on, (7) 174*b*.
intercrystalline swelling in, (5) 129*a*.
interlamellar sorption of mixed liquids by, (5) 125*h*.
Mexican, X-ray and electron microscope studies, (2) 44*e*.
minerals, cation exchange capacity, (10) 243*j*.
organo-, complex, effect of heat on, (7) 172*d*.
"phenyl," sorption of benzene and water by, (7) 179*c*.
suspensions, stability and thixotropy, (5) 127*j*.
systems. See *Systems*.
Mortars. See also *Pozzolans*.
ASTM Standards, B (2) 49*d*.
cement, corrosion of iron in, (11) 250*i*.
pressures produced in by alkali-aggregate reaction, (4) 82*g*.
relation of neutralization of to formation of rust in reinforcing steel, (11) 251*c*.
creep of, role of cement in, (3) 54*e*.
creep recovery of, relation to strength, (4) 82*g*.
cylindrical specimens, relation between total and local compressive strength, (2) 29*d*.
evaluation by cone penetrometer, (11) 251*a*.
hydraulic cement, P (9) 205*b*.
inorganic cement, for sulfuric acid service, (5) 107*b*.
Portland cement, with blast-furnace slag, capillary water absorption of, (7) 154*d*.
size change occurring early in setting, (8) 185*j*.
statistical analysis of flexural failure from standpoint of stochastic theory, (5) 107*b*.
reaction with CO_2 gas, (9) 204*f*.
shrinkage and cracking, (5) 107*h*.
for silica brick linings, (5) 113*c*.
surface-active agents in, (2) 28*j*.
testing of working properties of, (9) 204*e*.
Muds, oil-well drilling, evaluation of California bentonitic clay for, (3) 70*h*.
red, sodium compounds in, (2) 44*i*.
well drilling, P (10) 243*a*.
Mullite. See also *Refractories*.
-corundum, boundary, in systems $MgO–Al_2O_3–SiO_2$ and $CaO–Al_2O_3–SiO_2$, (1) 20*h*.
crystallization, in ternary alumina–silica systems, (5) 127*j*.
development, in fired kaolinites, electron microscope studies, (8) 200*b*.
differentiation from sillimanite in very fine crystalline samples, (11) 270*g*.
electron microscope study of, (5) 124*i*.
formation, studies of, (7) 179*b*.
formation, temperature of, (8) 192*a*.
in friction material for brakes and clutches, P (2) 37*e*.
needle crystals, stage of deposition in feldspar grains embedded in kaolinite, (7) 175*c*.
systems. See *Systems*.
transformation sequence of kaolinite to, new concept, (2) 47*c*.
X-ray, optical, and chemical data, (3) 73*c*.
X-ray study of solid solution of TiO_2, Fe_2O_3, and Cr_2O_3 in, (6) 149*f*.
Mullitization, of tubular kaolin, (7) 175*e*.
Muscovite. See *Mica*.

Neodymium, oxide, vaporization at high temperature by effusion, (6) 149*a*.
Nepheline, in cement raw mix, (3) 54*g*.
detailed structure, X-ray studies, (10) 243*f*.
syenite, (6) 145*g*.
Russian, geochemistry of Nb and Ta in massifs of, (3) 70*i*.
in sheet ground-coat enamels, effect on fish-scaling, (11) 252*i*.
Neutrons, cold, in polycrystalline graphite, thermal inelastic scattering, (10) 245*g*.
diffraction study, of antiferroelectric $PbZrO_3$, (10) 245*i*.
of heat-treatment of Co ferrite, (11) 263*g*.
of magnetic properties of perovskite-type compounds, (3) 76*a*.
of magnetic structures for perovskite-type mixed oxides $La(Mn,Cr)O_3$, (4) 92*b*.
of manganese ferrite, (4) 101*d*.
of orthorhombic $BaTiO_3$, (10) 244*h*.
dosimeter, ultrasonic, P (7) 182*a*.
total scattering, in vitreous silica, (4) 85*g*.
transmission, in analysis of B in borosilicate glasses, (6) 134*f*.
transmission, long wave length, as absolute method for determining concentration of lattice defects in crystals, (10) 244*g*.
Nickel, $-Al_2O_3$ alloys, preparation and high-temperature properties, (8) 191*d*.
-Co, polycrystalline ferrites, resonance widths in, (11) 263*j*.
in container for molten glass, P (1) 6*d*.
ferrite, anisotropy constants and *g* value, (2) 39*c*.
effect of iron oxide particle size on formation, (2) 39*i*.

Nickel, ferrite (*continued*)
evaluation of forming methods, (1) 12*e*.
in magnetic field, changes in electric resistivity, (9) 213*h*.
films, deposition on glass, (8) 187*j*.
in glazes, (6) 141*c*.
-Fe ferrite, magnetic properties, (1) 12*f*.
$NiCr_2O_4$, polycrystalline, oxygen mobility in, (10) 244*j*.
oxide, effect on cubic-hexagonal transition point of $BaTiO_3$, (7) 171*f*.
evaporation of Li_2O from solid solution of Li_2O in, (4) 101*c*.
lattice parameter of, as function of lithium oxide dissolved, (5) 125*d*.
as layer between steel and enamel, P (10) 227*d*.
lithiated, electrode of, P (4) 98*c*.
-Li_2O, solid solution formation, time dependence of, (3) 78*h*.
single crystals, magnetic susceptibility, (2) 40*a*.
systems. See also *Systems*.
-plated metals, buffing compounds for, (3) 51*h*.
powder, in sintered cathode, P (1) 13*g*.
in refractory metal body, P (7) 161*h*.
as substitution in Ti spinel pigments, (4) 84*c*.
telluride, magnetic properties of, (3) 64*j*.
titanate, synthesized, physical properties of, (6) 142*e*.
TiC-, compact, shrinkage by heating in vacuum, (7) 160*h*.
Ningyoite, uranous phosphate mineral from Japan, (6) 148*j*.
Niobium, in lead titanate ceramics, properties, (4) 92*f*.
in massifs of Russian nepheline syenite, geochemistry of, (3) 70*i*.
oxide, films, by anodic oxidation, photoelectric properties, (7) 163*c*.
oxide, in mixtures with Ta, Fe, and Ti oxides, X-ray spectrographic determination, (3) 70*f*.
pentoxide, systems. See *Systems*.
in ternary nitrides, (5) 126*g*.
Nitridation, of ferrous body, P (8) 192*j*.
Nitrides, metal, as coatings for graphite, P (4) 89*d*.
ternary, of V, Nb, and Ta with formula Li_4MeN_4, preparation and properties, (5) 126*g*.
Ti, making of, P (1) 18*e*.
Nitrogen, adsorption, in determination of surface area, (3) 74*a*.
systems. See *Systems*.
Nodulization, of pulverulent materials, P (7) 165*b*.
Nomenclature, of pegmatite phosphates, (3) 76*j*.
in pressure and vacuum measurement, (11) 264*j*.
Nomographs, for calculating dimensions of tube mill, (1) 14*e*.
for estimating particle properties, (1) 14*j*.
for polarization microscope, I, (8) 197*a*.
Nonmetals. See *Minerals, nonmetallic*.
Nonstoichiometric compounds, symposium on properties of, (7) 180*d*.
Nuclear industry, thermonuclear devices, measurement of ion and electron temperature in, (8) 196*j*.
Nuclear power. See *Energy*.
Nucleation, of alumina, at high supersaturations, recrystallization, (8) 201*g*.

Oil, burning, automatic control of, (2) 43*d*; (4) 97*e*.
firing, injection, of brick kilns, (2) 43*g*.
for firing of ware, types and economy, (3) 69*b*.
fuel, combustion, application to oil firing, (9) 217*a*.
for shaft kiln for calcining clay, (9) 217*c*.
specifications and importance, (9) 217*g*.
gas, hydrocatalytic desulfurization, P (1) 18*h*.
gasification of, importance in kiln firing, (3) 69*e*.
for heating chamber kiln for salt-glazed stoneware, (9) 217*b*.
for heating tunnel kiln for floor tile, (9) 217*c*.
hydrocarbon, decolorizing with alumina adsorbent, P (7) 168*b*.
waste, for firing studio kiln, (7) 154*b*.
Olefins, polymerization, with catalyst of Cr oxide on Al orthophosphate, P (8) 198*b*.
Olivine, alteration, in basic lavas and shallow intrusions, (3) 72*g*.
discrepancies between optic axial angles, (3) 74*g*.
effect of pressure on spectra, (7) 172*e*.
Mg-Fe, Ca-bearing, chemical and optical data, (3) 73*d*.
Opacification. See *Enamels; Glass; Glazes*.
Opacity, instrument for measuring, P (6) 144*i*.
Optical devices, glass-metal bond in, for withstanding liquid oxygen, (1) 4*i*.
of diamond, (3) 77*i*.
of diamond, effects of pressure, (3) 74*a*.
of monazites, comparative study, (6) 147*j*.
of mullite and sillimanite, (3) 73*e*.
of nonmetallic single crystals, B (11) 274*j*.
of plagioclases, heated, (3) 76*f*.
of semiconductors, B (3) 80*a*.
Optics, single crystal materials for, (6) 142*g*.
Ores, comminution of, P (11) 269*d*.
concentrating apparatus, P (8) 198*c*.
determination of Th in, by liquid-liquid extraction, (7) 171*b*.
distributing and separating apparatus, P (10) 241*e*.
extraction of rare earths from, P (1) 19*b*.
ferrotitaniferous, recovering minerals from, P (2) 45*e*.
metallic, collecting apparatus with plurality of magnetized surface areas, P (5) 121*i*.
microscopy of, B (3) 80*c*.
mineral, beneficiation, P (5) 121*b*.
multicone concentrator for, P (11) 269*e*.

Ores (*continued*)
phosphate-containing, Ca aluminate and Al_2O_3 from, P (3) 72*d*.
removal of magnetizable particles, P (7) 167*f*.
separation, automatic, P (7) 167*f*.
separation and recovery of Fe and TiO_2 from, P (3) 72*f*.
titaniferous, iron, flotation of silicates from, P (2) 45*g*.
unexploited deposits, of Haute-Ariège, (4) 98*h*.
Organic compounds, application in ceramic industries, (3) 71*a*.
Organosols. See *Colloids*.
Orthopyroxenes. See *Pyroxenes, ortho-*.
Ovens. See also *Furnaces; Kilns*.
coke, bonded-wall structure for chambers, P (9) 217*f*.
coke, high-grog burner parts for, (3) 61*d*.
convection heating of, P (5) 120*e*.
crystal, P (8) 194*j*.
crystal, constant temperature chamber, P (5) 117*f*.
intermittent, for firing ceramic ware, (10) 240*f*.
Oxidation, inhibitor, in heat-treating metals, P (1) 4*b*.
of plutonium, P (1) 21*j*.
pre-, of stainless steel for glass-to-metal sealing, P (8) 190*a*.
process, for iron from divalent to trivalent stage, P (6) 146*b*.
-reduction reactions, in volumetric analysis, B (4) 104*j*.
-resistant article, P (3) 62*f*.
-resistant graphite, P (4) 89*g*.
shield, for glass furnace electrodes, P (8) 190*a*.
of SiC, (1) 20*a*.
effects of oxygen partial pressure, (5) 113*d*.
powders, II, (5) 113*e*; III, (10) 234*j*.
study, of UO_2-ThO_2 solid solutions, (11) 259*a*.
thermal, in formation of insulating coatings on Cu and Al, (1) 3*g*.
Oxides. See also *Rare earths* and specific types.
and architectural colors, (5) 108*i*.
materials, porcelain as focus of, (2) 49*b*.
mixed metal, structure and properties, P (9) 224*i*.
nonstoichiometric, refractory, properties of, (7) 180*f*.
powders, change in fluidity during heating, (7) 169*j*.
powders, effect of heat treatment on sintering of, (8) 200*j*.
semiconducting, choice of electrodes for study and use of, (8) 194*g*.
semiconducting properties of, B (5) 130*b*.
sintered, for cutting tools, (11) 249*g*.
spectrochemical analysis, (11) 272*b*.
structure classification, (5) 128*c*.
super-, of alkaline earth metals, synthesis, I–IV, (9) 221*e*.
systems, volume changes in diffusion zone of, (9) 222*a*.
Oxygen, adsorbed, as cause of hydrophobicity of silicate glasses, (10) 229*h*.
analysis, in gas sample, P (10) 246*a*.
analyzer, P (10) 246*b*.
behavior in steel melted in Al_2O_3-SiO_2 crucibles in vacuum, (10) 233*d*.
diffusion in silicon, (10) 243*h*.
effect on bonding of gold to fused silica, (4) 100*i*.
effect on sulfides in glasses, (7) 156*c*.
liquid, glass-metal bond for withstanding, (1) 4*i*.
mobility, in polycrystalline $NiCr_2O_4$ and α-Fe_2O_3, (10) 244*j*.
partial pressure, effect on oxidation of SiC, (5) 113*d*.
in reversible poisoning of oxide coated cathodes, (10) 237*f*.
systems. See *Systems*.

Packaging. See also *Shipping*.
costs, reduction, (10) 246*e*.
economy, of brick, pipe, and tile, (11) 257*g*.
European competition, (2) 49*b*.
Packing, densest, of grains without dust content, (4) 103*c*.
Paints, based on Portland cement, P (8) 186*e*.
Palladium, coated quartz glass, permeation of H, (3) 57*c*.
in resistor element, P (7) 164*b*.
Pallets. See *Materials handling*.
Panels. See *Building materials*.
Paper, pigmented, with enhanced opacity, P (10) 242*h*.
pigments, P (10) 242*g*.
Particles. See also *Colloids*.
airborne, automatic counting and sizing, P (6) 144*g*.
charged, in working of materials, P (1) 21*i*.
cooler for, P (1) 16*a*.
counting, flying spot scanning system for, P (1) 15*f*.
counting apparatus, P (5) 119*b*; P (11) 226*j*; P (11) 267*a*.
discrete, counting apparatus, P (7) 165*h*.
nonmagnetic, separation process, P (8) 199*d*.
orientation, effect on differential shrinkage of clays and bodies, (7) 171*j*.
properties, nomographs for estimating, (1) 14*j*.
proportion of plastic and nonplastic, effect on yield value and modulus of rigidity, (5) 120*i*.
separation with magnetized fluid, P (2) 42*b*.
shape factors, routine measurement in sieve range, (11) 266*h*.
size, of clays, practical analysis, III, (7) 162*i*.
data, apparatus for extracting, P (9) 216*i*.
determination by β-back-scattering, (7) 171*a*.

Particles, size (*continued*)
determination from spotty diffraction rings, (7) 175*f*.
discriminator, ballistic, P (8) 196*d*.
and distribution, in powders, (5) 126*c*.
effect on castable refractory quality, (10) 232*d*.
effect on metallizing behavior of Al_2O_3 ceramics, (7) 163*e*.
effect on quartz-cristobalite transformation in silica brick, (1) 9*c*.
electronic measurement, (7) 165*g*.
estimation with modified Werner sedimentation apparatus, (7) 165*h*.
of magnesite bodies, relation to elastic aftereffect of pressing, (9) 211*d*.
methods for determination in brick clays, (5) 112*j*.
of raw material, effect on density of corundum body, (7) 162*d*.
sedimentation scales for automatic investigation, (11) 266*j*.
of silica bodies, dependence of phase composition on, (9) 210*i*.
of thoria, determination in range 5 to 0.1μ by radiometric sedimentometer, (8) 200*f*.
variation, in cements, (10) 226*a*.
variation due to rehydration of dry clays, (5) 118*h*.
size analysis, by sedimentation in long-arm centrifuge, (2) 42*j*.
size distribution, effect on ball milling time of prefired ferrite, (5) 116*g*.
effect on grain growth in beryllia, (11) 258*j*.
in emulsions and suspensions, statistical theory of, (5) 128*b*.
theoretical analysis in use of conventional and special type screens, (11) 259*h*.
as variable in factorial design of experiments, (7) 182*c*.
spherical, of alumina-iron oxide, for catalyst, P (1) 17*j*.
spherical, viscosity of settling suspensions of, (9) 221*c*.
suspended, behavior in laminar shear, B (6) 152*j*.
Patents, for control of glass quality and dimensions in hollow glassware, (5) 110*c*.
Pelletization, of alkaline earth metal silicates, P (8) 198*h*.
in reclamation of fly ash, P (11) 260*g*.
Pellets, apparatus for transferring, P (4) 95*a*.
green, screen bed for, P (4) 96*a*.
method and apparatus for making, P (3) 68*a*.
sintering bed, process for producing, P (8) 196*h*.
Penetration, of materials, instrument for testing, P (4) 97*b*.
Peptization, of clays, (7) 176*j*.
Perborates, granular, production, P (2) 45*h*.
Periclase, commercial, study of, (8) 192*c*.
Perlite, crude, in 1959, (7) 160*i*.
expanded, asbestos embedded in, P (2) 37*d*.
expanded, continuous processing, P (9) 218*h*.
in 1959, (11) 268*a*.
ore, expanding of, P (1) 18*d*.
Permeability. See also *Porosity*.
air, of concrete, (2) 28*d,e*.
initial measurements of mixed Y-Ca Fe garnets, (10) 237*j*.
of soils, permeameter for measuring, (6) 144*g*.
Permeameter, for determining permeability of low-permeability soils, (6) 144*g*.
Permittivity. See *Dielectrics, constant*.
Perovskite, containing Sr, magnetic properties, I, (3) 65*b*.
orthorhombic, in system La_2O_3–iron oxide in air, (8) 201*h*.
-type compounds in, binary rare earth oxide systems, (3) 77*b*.
-type compounds, neutron diffraction study of magnetic properties, (3) 76*a*.
Perthites, orthoclase, and microcline, nature of, (7) 168*j*.
sanidine and orthoclase, from Ireland, (7) 169*a*.
Petrography, characteristics, of Chinese porcelain stone, (9) 218*a*.
in study of action of iron oxide on chrome spinelides during heating, (3) 60*j*.
in study of glass formation mechanism, (6) 134*j*.
Petrology, clay, of sediments, B (9) 223*i*.
in study of used chrome-magnesite refractories, (10) 232*c*.
Petrurgy, in processing Austrian basalts into high-wear-resistant material, (2) 49*c*.
pH. See *Hydrogen ion concentration*.
Phase diagrams. See *Equilibrium studies*.
Phase rule. See *Equilibrium studies*.
Phosphates. See also *Glass* and specific types.
adsorption, by estuarine bottom deposits, (1) 17*a*.
alkyl, in separation of Zr from Hf, P (6) 149*d*.
dicalcium, processing and composition, P (10) 242*b*.
dispersants, for controlling dispersion characteristics of clay minerals, (11) 268*c*.
fluoro-, Mg-Ca, P (6) 136*i*.
melts, and glasses, studies of, I–IV, (6) 135*c*.
monocalcium ortho-, production, P (5) 122*a*.
pegmatite, nomenclature, structure, and chemistry of, (3) 76*j*.
poly-, chain-type, cationic exchange and intracrystalline swelling, (5) 123*i*.
poly-, reaction with clay minerals, (5) 127*g*.
rare-earth, relation of ionic radius to structures, (3) 77*a*.
separation from silicate and arsenate in solution, (2) 47*c*.
sorption, by Fe and Al oxides, (7) 176*i*.
titanium boride from, P (8) 192*i*.
Phosphoric acid, as bond for refractories, (11) 259*b*.
in heat resistant composition, P (9) 212*a*.
process, by-product gypsum from, V, (3) 52*h*.

Phosphoric acids (*continued*)
in spray-pickle systems, (1) 4*a*.
Phosphors, activated alumina dominant in, P (5) 117*a*.
burn-resistant, P (9) 209*a*.
coated particles, P (5) 117*d*.
coating, of improved adherence, P (3) 59*g*.
as coating on high pressure mercury lamp, P (2) 32*h*.
crystalline, determination of absorption spectra by means of diffuse reflection spectra, (9) 231*i*.
crystalline, semiconductor model for excitation of candoluminescence in, (9) 214*i*.
electrical properties of, B (1) 25*b*.
electroluminescent, making of, P (5) 117*h,i*.
particles, in cell, P (2) 40*e*.
3-color, P (9) 214*g*.
Mg-Ca fluorophosphate, P (6) 136*i*.
for scintillation counter, P (11) 255*d*.
suspending and cementing agent from K silicate solutions, P (8) 199*b*.
ZnS-Cu-Mn, electroluminescence in constant field, (9) 213*j*.
Phosphorus, determination, in coal ash, (2) 43*j*.
in oxidation-resistant article, P (3) 62*f*.
pentoxide, effect on foaming of silicate slags, (3) 60*j*.
for increasing burnability of dolomite clinker, (7) 154*i*.
systems. See *Systems*.
Photoceramics, new technology of, (1) 5*i*.
Photoconductors, device, with CdS powder and glass enamel, P (9) 214*i*.
device, manufacture of, P (9) 209*k*.
Photoelastic constants, of vitreous silica, (9) 220*a*.
Photoelasticity, study, of Rochelle salt crystals, (11) 271*g*.
Photoelectricity, optical instrument for measuring, (4) 96*f*.
Photographs, producing in glass, P (2) 34*a*.
Photography. See also *Cameras*.
in glass, use of submicroscopic particles of Cu and Ag in surface, P (4) 87*d*.
low magnification thin section, (7) 174*d*.
micro-, B (1) 24*i*.
photomechanical silk screen process, for decorating ceramic ware, (2) 37*j*.
reproduction on ceramics, P (11) 262*b*.
transmission, in determination of grain or crystallite size, (7) 175*f*.
Photometers, Cary-14, absorption readings of dichromate solution standards with, (5) 119*b*.
flame, in analysis of soda-lime glass, (1) 4*g*.
Beckman, in glassworks laboratory, (2) 31*h*.
EEL filter, for determination of alkalis in three types of glasses, (2) 31*a*.
photomultiplier, for studying quartz grain orientation, (7) 165*f*.
Photometry, in determination of Mg in rocks, (4) 101*c*.
in determination of maximum irradiance in carbon arc image, (4) 96*h*.
flame, in analysis of silicates, (3) 68*d*.
in determination of alkalis in silicates, (5) 124*c*.
in determination of Ca in tungsten ores, (3) 73*i*.
Physical chemistry. See *Chemistry*.
Physics, of clays and other ceramic materials, B (3) 79*i*.
crystal, encyclopedia of, B (8) 202*d*.
crystal, progress in, B (11) 274*j*.
handbook of, B (1) 23*i*.
Pickling, of metal for ranges, (3) 55*f*.
of sheet steel, after de-enameling, (8) 186*j*.
spray phosphoric acid, (1) 4*a*.
waste liquor, in production of soil additive, P (6) 134*b*.
waste liquor, production of sulfuric acid from, P (11) 252*i*.
Piezoelectricity, of $GaFeO_3$, occurrence simultaneously with ferromagnetism, (9) 214*a*.
piezoelectric ceramic resonators, P (11) 264*b*.
piezoelectric ceramics, precision, for single element stereophonic cartridge, (8) 194*g*.
piezoelectric coefficients, of $BaTiO_3$ ceramics, dependence on density and composition, (4) 92*a*.
Pigments. See also *Stains*.
for addition to flint glass in feeder, P (6) 136*j*.
Al_2O_3-SiO_2, finely divided, P (6) 146*e*; P (11) 269*a*.
beneficiated iron oxide, P (5) 121*h*.
for coloring glass fibers, P (8) 189*a*.
grinding and dispersion, surface chemistry and rheology of, (9) 215*g*.
identification, Friel System, (4) 83*h*.
iron oxide for, P (2) 45*j*.
mineral, effect on cement behavior, (5) 107*d*.
mixtures, graphic data for, (11) 268*f*.
paper, P (10) 242*g*.
-plasticizer dispersions, measurements on, B (6) 152*j*.
preparation, P (7) 167*a*.
red oxide of iron, P (9) 218*d*.
rutile, wet milling of, P (8) 198*i*.
silica, preparation, P (10) 241*g*.
siliceous, production, P (3) 72*e*; P (11) 269*b*.
TiO_2, production, P (4) 100*a*.
Ti, production, P (1) 18*i*.
titanium spinel, (4) 84*b*.
white, finely divided precipitated, Al_2O_3-SiO_2, P (10) 242*h*.
zinc ferrite, P (2) 45*c*.
Pipe. See also *Tile*.
asbestos-cement, machine for continuous manufacture, P (8) 186*d*.
clay, design improvements, (10) 231*f*.
clay, epoxy bonding for, (11) 257*h*.
diameter, calculation from fluid flow, (4) 101*c*.
drain, with high porosity and filtration along entire length, (2) 34*i*.
Pipe (*continued*)
economy packaging, (11) 257*g*.
glazed, work study in industry, (1) 7*f*.
humidity drier for, (2) 41*e*.
protection with enamel coatings, (2) 30*f*.
salt-glazed, firing in oil-fired kiln, (11) 267*d*.
sewer, improvements in plants and operations, (11) 264*g*.
sewer, method of firing, P (4) 88*b*.
Pitch. See *Resin*.
Plagioclase. See *Feldspars*.
Plaster, bibliography on, (3) 52*h*.
board, production of, P (10) 226*f*.
composition, P (3) 55*d*.
gypsum, higher strength, (1) 3*c*.
hemihydrate forms, conversion of raw gypsum to, (3) 54*c*.
modeling, Araldite resin for, (5) 114*j*.
model and mold making, (6) 141*d*.
molds. See *Molds*.
one-coat, P (8) 186*g*.
porous, method of making, P (4) 83*b*.
Plaster of Paris. See also *Gypsum*.
effect of Cu, Pb, and Zn compounds and sugar on setting of, (2) 28*g*.
evaluation by solubility measurements, (5) 106*e*.
set of, study with vibrating viscometer, (2) 29*f*.
solubility, relation to setting, (5) 107*j*.
testing and evaluation, (1) 3*a*.
Plasticity, of ceramic and refractory bodies, (11) 261*j*.
of clays, basic properties affecting, (6) 148*j*.
blunged in high-intensity dispersion mill, (3) 63*i*.
Brazilian, (5) 121*d*.
and kaolins, (6) 148*a*.
of clay-water systems, importance of surface tension of liquid phase in controlling, (10) 245*d*.
of fractionated clay minerals, (5) 126*i*.
modified torsional plastograph, (6) 148*e*.
in theory and practice, (7) 176*j*.
water of, as variable in factorial design of experiments, (7) 182*c*.
Plastics. See also *Resins*.
and glass, in structural parts, P (3) 59*e*.
Plating. See *Coatings*.
Platinum, attack of lead-borosilicate glasses on, (11) 254*b*.
crucibles, electrochemical phenomena between glass and Pt electrodes in, B (6) 150*d*.
in decoration of ceramic ware, (8) 194*b*.
in feeder die for sheet glass, P (1) 6*i*.
oriented overgrowth on muscovite, (9) 220*j*.
resistance thermometer, (5) 119*h*.
resistance thermometer, high temperature, (9) 216*f*.
thermocouples, care of, (9) 206*c*.
Pleochroism, of crystals, relation to absorption, (3) 72*g*.
Plutonium, oxidation, P (1) 21*j*.
separation from rare earths by precipitation, P (8) 202*a*.
separation by repeated precipitation with amphoteric hydroxide carriers, P (8) 202*c*.
Poisoning, cathode, electron absorbing mask for preventing, P (10) 237*j*.
reversible, of oxide coated cathodes by S, O, and other gases, (10) 237*f*.
Polarizability, of $BaTiO_3$ crystal, dynamic properties, (5) 116*c*.
Polarization, nondestructive method of measuring for study of ferroelectrics, (9) 214*f*.
of titanate ceramics P (9) 214*j*.
Polarography, cell, for chemical analysis, P (4) 102*j*.
in determination of Se in signal glass, (3) 57*e*.
in estimation of, arsenic in glass, (9) 206*g*.
Pb in glass and enamel, (4) 84*j*.
Se in ruby glass, (4) 85*b*.
principles and applications, B (1) 25*b*.
in simultaneous estimation of Ti and Fe in silicates, (7) 178*j*.
Polishing. See *Grinding and polishing*.
Polyelectrolytes. See *Electrolytes*.
Polyesters, as impregnants for castings, (4) 83*g*.
Polymerization, of silicic acid, (5) 126*j*.
Polymers, adhesion to glass, (9) 206*a*.
glass formation in, II, (7) 173*a*.
Polyphosphates. See *Phosphates*.
Polyurethane, hydraulic cement-, compositions for coating, sealing, patching, and surfacing, P (2) 29*a*.
Porcelain, art. See *Art and artware*.
balls, to increase abrasive effect in hydrocyclone, (1) 17*d*.
bodies, translucency of, (3) 64*b*.
chemical, mortar and pestle, P (2) 48*j*.
for chemical and technical uses, German development since 18th century, (2) 37*j*.
decorating with Al films, (9) 213*b*.
dental. See *Dental materials*.
dielectric. See *Dielectrics*.
diopside, synthetic, as high frequency insulator, I–V, (3) 63*d*.
effect of internal strain on texture and strength, (6) 141*j*.
effect of lime additions to, (6) 141*j*.
electrical. See also *Insulators, electrical; Spark plug insulators*.
electrical, effect of BeO, B_2O_3, and Al_2O_3 on properties of, (5) 115*e*.
electron microscopy in study of, (1) 19*h*.
electrotechnical, volcanic ash in, (7) 162*d*.
in engineering, (8) 193*f*.
feldspathic, glass formation temperature in, (10) 236*a*.
fired, study of surface phenomena, (9) 213*b*.
as focus of oxide materials, (2) 49*b*.
forsterite, as high frequency insulator, I–V, (4) 90*f*; VI, VII, (8) 193*i*.
forsterite, silica-rich, properties of, (8) 193*g*.
Porcelain (*continued*)
German, 18th century, B (1) 22*g*.
glazes, abrasion resistance, (6) 141*d*.
high-alkali, I, II, (2) 38*a*.
high voltage, use of nonelectrolytic kaolins in, (8) 198*j*.
hollow ware, infrared tunnel drier for, (5) 120*c*.
material properties, B (1) 23*f*.
microstructure, X, XI, (7) 175*c*.
Russian, development trends 1959–1965, (2) 38*j*.
tableware, German functional styles, (3) 52*f*.
thermal shock resistant, I, II, (2) 38*f*.
use of Nev'yansk kaolins in, (1) 17*j*.
Pores, distribution, dimensions, and method of measuring, (10) 234*c*.
size, and morphology, (5) 123*h*.
size, and shape in capillary ultrafilters, (5) 124*i*.
size, effect on thermal conductivity of heat insulating mica brick, (4) 88*e*.
size distribution in refractories, (8) 191*d*.
structure, effect on adsorption of vapors on silica gels, (5) 127*a*.
of silica gels, relation to pretreatment, (5) 128*j*.
and size distribution, in refractories, (8) 191*a*.
Porosity. See also *Permeability; Pores*.
effect on, dielectric breakdown strength, (4) 92*b*.
quality and performance of ladle firebrick, (10) 232*a*.
silica roof performance, (10) 233*b*.
organic compounds for inducing in insulating materials, (3) 71*a*.
Porous materials. See also *Cements; Concretes; Insulation, thermal*.
ceramic, as plant husbandry equipment permeable to air but unwettable by water, P (10) 231*h*.
determination of specific surface by adsorption, (5) 128*h*.
manufacture, effect of organic binders, (9) 215*g*.
membranes, for separation of uranium isotopes by gaseous diffusion, (10) 233*g*.
structure and properties of, B (6) 152*c*.
Portland cement. See *Cement, Portland*.
Potash feldspar. See *Feldspars*.
Potassium. See also *Alkalis*.
bicarbonate, production, P (2) 45*i*.
bicarbonate, as raw material for glass, (10) 228*h*.
calcium silicate, heat of formation of, (2) 46*l*.
carbonate, production, P (2) 46*a*.
chloride, or carbonate, effect on CO attack of firebrick, (10) 232*a*.
chloride, systems. See *Systems*.
chromate, magnetism of, (5) 125*g*.
feldspar, polymorphism of, (7) 168*j*.
fixation, by expandable clay minerals, (3) 74*i*.
fluoride, solutions, growth of $BaTiO_3$ crystals from, (1) 20*i*.
solutions, growth of $BaTiO_3$ crystals from, comment on, (8) 199*j*.
systems. See *Systems*.
iodide, crystal, Tl fluorescence in, (2) 39*f*.
in kaolin, quantitative flame-spectrometric determination, (6) 148*f*.
metal-antimonate, P (7) 168*h*.
niobate, ferroelectric, behavior in cubic-tetragonal transition, (1) 12*a*.
oxide, effect on tridymite formation, (1) 19*j*.
flame photometric determination in glasses, (2) 31*a*.
in glass, determination, (1) 4*i*.
in potash feldspars, determination by X-ray emission and flame photometer, (6) 147*e*.
systems. See *Systems*.
separation from silicate rocks by ion exchange resin, (3) 78*j*.
silicate, solutions, for suspending and cementing agent for phosphors, P (8) 199*b*.
in silicates, quantitative spectrochemical determination, (2) 29*b*.
spectrographic determination in tungstic oxide, (3) 77*j*.
Potentials, difference, at steel-cement contacts, factors affecting, (3) 54*a*.
sparking, of oxide-coated cathodes in H_2, (4) 91*i*.
Potters, of Abuja, Government sponsored training center in Nigeria, (4) 82*e*.
Dorincourt, organization employing disabled, (3) 52*d*.
Pottery. See also *Archeology; Art and artware; Bodies, ceramic; Designs; Dinnerware; Earthenware; Stoneware; Terra cotta; Whiteware*.
body, preparation and control, improvements in slip-house practice, (3) 63*b*.
British, influence of television puppet, (3) 52*c*.
control of casting slip for, (8) 185*i*.
decoration. See *Decoration*.
design, analysis of present state, (1) 2*b*.
design, traditional and modern, (7) 154*a*.
flatware, decoration by Murray printing process, (9) 213*a*.
"fuses," machine for continuous mechanical manufacture, P (5) 117*d*.
Greek painted, B (7) 182*g*.
illustrated guide to creating and enjoying, B (10) 246*g*.
in Iraq, glaze materials used, (7) 154*a*.
Koryo, historical, (2) 28*c*.
packages for, European, (2) 49*b*.
research, at Haeger potteries, (8) 185*h*.
Roman, in England, history, (7) 154*a*.
in Sudan, types and processes, (7) 154*a*.
through the ages, B (1) 25*a*.
underglaze liquid colors for, (2) 38*f*.
of Yucatan, development of, B (7) 182*g*.
Pottery Gazette & Glass Trade Review Reference Book and Directory, 1960, B (5) 130*a*.

Pottery industry, British, use of Etruria marls, (6) 145*j*.
dust extraction systems in, P (1) 22*g*.
engineering developments, (3) 63*e*.
work study in, (1) 11*b*.
Potterymaking apparatus and equipment. See also *Driers; Kiln furniture; Kilns; Materials handling; Molds.*
automatic transfer device, P (10) 236*c*.
potter's wheel and mechanism, P (3) 52*e*.
shaping and auxiliary, for jiggering of flat and hollow ware, patent review, (11) 265*b*.
Powder metallurgy, articles, production of, P (5) 114*b*.
in making corrosion resistant shapes, P (11) 261*d*.
in nuclear engineering, (7) 160*c*.
in production of rhenium, (3) 70*j*.
trial production of metallic bonded grinding wheel, (2) 27*h*.
Powders. See also *Granular materials.*
apparatus and method for packing, P (11) 268*d*.
apparatus for mixing or blending, P (1) 14*h*.
Be, and cermet, hot pressing of, (7) 160*j*.
conveyer for discharging, P (4) 99*i*.
determination of specific surface by adsorption, (5) 128*h*.
dielectric determination of water in, (9) 219*a*.
disintegration of solid Ca_3SiO_5 to, (6) 132*g*.
effect of density and viscosity of liquids on sedimentation volume, (5) 124*j*.
fine, determination of specific surface of, (5) 124*e*.
metal or ceramic, continuous compaction, (6) 143*i*.
nodulization, P (7) 165*b*.
oxide, change in fluidity during heating, (7) 160*j*.
particle size and distribution in, (5) 126*c*.
pressing of plates and saucers from, P (10) 236*f*.
production method, P (1) 18*e*.
sedimentation rate in liquids, (5) 127*d*.
sintered compact, method of bending, P (11) 260*f*.
specific surface, rapid estimation, (7) 178*d*.
superfine, method for measuring, (3) 54*c*.
Power. See also *Energy.*
anisotropic thermoelectric, of graphite, (8) 194*f*.
electric, distribution for quarries and mines, I, (3) 71*e*; II, (4) 98*h*.
factor, classification of mica on basis of, (3) 70*b*.
thermoelectric, of carbons, (3) 78*f*.
Pozzolans. See also *Cement; Mortars.*
bibliography, 1890–1959, (4) 82*f*.
in concrete, factors affecting sulfate resistance, (11) 251*e*.
in decreasing air permeability of concrete, (2) 28*d*.
development and future of, I, II, (1) 2*g*; III, (4) 82*f*; IV, (10) 225*j*; V, VI, (11) 250*j*.
Precipitation, of alumina hydrate from pregnant caustic aluminate liquor, P (9) 218*d*.
of magnetite, dispersed fine-particle, (9) 214*g*.
of Mn in silicate rock analysis, (9) 220*f*.
repeated, in separation of plutonium with amphoteric hydroxide carriers, P (8) 202*c*.
for separation of plutonium and rare earths, P (8) 202*a*.
of silica, P (6) 147*c*.
Precipitators, electric, P (6) 144*a*; P (7) 165*a*.
control apparatus, P (3) 67*i*; P (9) 216*b*.
of liquid spray type, P (11) 265*a*.
electrostatic, P (8) 196*b*; P (11) 265*a*.
gas-cleaning, P (11) 265*a*.
purge system for, P (9) 216*d*.
sample counter for radioactive materials, P (4) 97*a*.
horizontal plane purge for, P (4) 95*g*.
Presses, automatic toggle, (1) 14*c*.
brick, feeding apparatus for, P (3) 68*a*.
filter, mechanism for, P (8) 196*a*.
filter, probe for indicating thickness of filter cake, P (4) 95*c*.
friction, for semiacid coking shapes, (6) 139*i*.
glassworking, P (2) 33*a*.
hydraulic, high temperature, P (11) 265*g*.
interlocking-tile, increasing output, (6) 141*h*.
multichamber, P (5) 118*i*.
nipper roll, for curved laminated glass sheets, P (1) 6*b*.
nipper roll, for preliminary pressing of curved laminated glass sheets, P (11) 255*h*.
pneumatically controlled, safety device for, P (11) 266*c*.
power, P (10) 239*i*.
ram, with hydraulically operated punch and stripper, for mica, P (4) 94*j*.
toggle, pressing force of, (8) 195*j*.
Pressing, of articles from powdered materials, P (10) 236*f*.
of block from lightweight aggregates, (11) 257*f*.
conditions, effect on green strength of earthenware tile, (3) 63*c*.
dry, in clay block production, (11) 257*g*.
of firebrick, experiments, (1) 8*i*.
mechanism of, (9) 215*i*.
force, of toggle presses, (8) 195*j*.
high temperature, of refractories, research on, (9) 211*a*.
hot, of aluminum oxide, (3) 75*c*.
in fabrication of cermets of system Al_2O_3–Cr, (6) 138*i*.
fused silica, (11) 270*i*.
of refractory oxides, theory and practice, (1) 9*a*.
of vitreocrystalline material, P (1) 13*b*.
hydraulic, of magnesite arch brick with orifices, (6) 139*c*.
hydrostatic, of TiC–Co system cermet, (4) 95*b*.
of laminated glass, P (11) 256*e*.
semidry, of semiacid coking shapes, (6) 139*i*.
semidry, of unfired and grog refractories, effect of moisture content and forming pressure, (9) 210*j*.
Pressing (*continued*)
warm, of UO_2 and UO_2-metal mixtures, (4) 89*c*.
Pressure, dissociation, of solid solutions from Fe_3O_4 to $0.4Fe_3O_4$-$0.6COFe_2O_4$, (10) 243*j*.
effect on, Curie temperature of polycrystalline ceramic $BaTiO_3$, (4) 92*g*.
optical and electrical properties of diamonds, (3) 74*a*.
spectra of olivine and garnet, (7) 172*e*.
forming, effect on density of unfired and grog refractories semidry pressed, (9) 210*j*.
effect on properties of heavy clay products, (9) 210*c*.
fluid release of oressed ware, P (1) 14*f*.
high, apparatus for study of infrared spectra, (7) 173*i*.
high, multianvil wedge-type apparatus for producing, (7) 170*h*.
hydrostatic, effect on dielectric properties of $BaTiO_3$, (7) 163*a*.
low, evaporation at, (8) 200*c*.
-temperature-density, relations in UO_2, (4) 88*d*.
vapor, of glassforming substances, measurement of, (9) 208*a*.
Proceedings, of conference of British Society of Rheology, 1957, B (6) 152*j*.
of international conference on atomic mechanisms of fracture, 1959, B (6) 151*d*.
of international conference on reactivity of solids, 1956, Vol. II, Sections II, III, B (10) 248*g*.
of tenth symposium of Colston Research Society on structure and properties of porous materials B (6) 152*c*.
Process design, for manufacture of pozzolans, (10) 225*j*.
Psychrometry. See *Humidity, measurement.*
Pug mills. See *Mills.*
Pulverizers. See *Crushing and grinding apparatus.*
Pulverizing. See *Crushing and grinding.*
Pulverulent materials. See *Powders.*
Pumps, vacuum, measurement of capacity, (3) 67*i*.
Pyrite, DTA of, (3) 74*c*.
effect on reaction of cement raw meals below 1100°C., (6) 132*h*.
Pyrolysis, control, in production of C refractories, (4) 88*c*.
Pyrometers, circuit, P (8) 198*b*.
optical, P (6) 144*i*; P (7) 166*d,e*.
compared with other methods of measuring high temperatures in electric furnaces, (6) 145*d*.
in measuring temperature of unenclosed objects, (10) 240*b*.
Radiamatic, for prevention of hot spot damage to kiln, (4) 82*i*.
suction type, P (6) 144*j*.
surface contact, P (11) 267*g*.
without lenses, P (4) 97*c*.
Pyrometric cones, preparation and standardization, (4) 97*c*.
Pyrometry, optical, absorbing filters for high temperatures, (11) 266*f*.
Pyrophyllite, (6) 146*b*.
bodies, dielectric loss and insulation resistance, (4) 92*c*.
company, new mineral grinding plant for, (11) 273*f*.
Suransk, as ceramic material, (6) 146*f*.
tetrahedron, in high pressure apparatus, (7) 170*h*.
for tunnel kiln car tops, (1) 8*c*.
in U. S., bibliography of, (2) 44*g*.
Pyroplastic index, in determination of firing deformation, (1) 11*d*.
use in sanitary ware plant, (2) 34*i*.
Pyroxenes, crystals, identification of oriented inclusions in, (6) 148*d*.
ortho-, alteration in basic lavas and shallow intrusions, (3) 72*g*.
Pyrrhotite, single crystal, ferromagnetic resonance absorption in, (7) 163*c*.

Quality control, apparatus for inspecting glass containers, P (1) 6*i*.
device for detecting differences in two objects, P (1) 14*e*.
in domestic tableware manufacture, importance of inspection, (7) 162*h*.
fluorescent penetrant inspection materials, P (5) 129*d*.
of fused cast refractories for glass industry, (7) 160*g*.
for glass containers, straight-line inspection for, (8) 188*c*.
in hollow glassware, (5) 110*e*.
statistical, of glass manufacture, in relation to glass cords, (11) 253*e*.
testing, of enamel frits and mill additions, (1) 3*g*.
Quartz. See also *Glass; Refractories; Silica.*
α-, infrared absorption bands in 3 μ region, (11) 254*d*.
α-, infrared absorption spectra between 4 and 15μ, (1) 20*c*.
beads, as insulation for coaxial cables, (4) 92*e*.
content, of clays, determination by X rays, (5) 124*d*.
content, in sheet ground-coat enamels, effect on fishscaling, (11) 252*i*.
-cristobalite, transformation, II, (1) 20*i*.
-cristobalite, transformation in silica brick, (1) 9*c*.
crystalline, anisotropic relaxation peak in internal friction of, (10) 243*d*.
crystals, (6) 146*b*.
dislocations, relaxations, and anelasticity, (2) 46*f*.
electronic grade, (6) 145*h*.
electronic grade, in 1958, (5) 120*i*.
large, production of, (7) 177*e*.
Quartz, crystals (*continued*)
piezoelectric, of elongated shape, P (7) 164*b*.
single, growing of, P (6) 149*b*.
single, seed body for, P (6) 149*c*.
sintering of, (2) 47*f*.
study of individual dislocations by microradiography, (9) 221*b*.
synthetic, method of making, P (10) 238*e*.
effect of thermal motion on X-ray reflectivity of, (9) 219*e*.
electrolysis, mechanism of, (11) 263*e*.
and feldspar, mixtures, immersion method of determining dielectric constant, (3) 63*b*.
fibers, methods of making (3) 70*h*.
forced movement of monovalent metal ions in, (9) 219*i*.
fused, II, (9) 220*b*.
and crystalline, thermal conductivities of, (9) 221*j*.
and crystalline, thermoluminescence, (4) 85*f*.
producing in graphite container, P (7) 168*e*.
refractive index of, anomalies in, (6) 148*g*.
gallina, as additive in refractories, P (5) 114*c*.
germania, α to β transition, (7) 169*b*.
glass and ware, nature and properties, patent review, (9) 218*b*.
grain orientation, photomultiplier photometer for studying, (7) 165*f*.
grains, solution in molten silicates, petrographic study, (6) 134*j*.
irradiated, trapped electrons in, I, II, (9) 208*d*.
kaolinite-mica-, mixtures, comparison with K_2O–Al_2O_3–SiO_2 equilibrium diagram, (11) 270*f*.
-kaolinite-mica, mixtures, mineralogy and ceramic properties, (3) 75*h*.
method of growing, P (5) 103*a*.
plates, elastic vibrations in stationary electrical fields, (11) 262*i*.
powdered, use in glass industry, (6) 135*e*.
powders, adsorption properties and surface structure, (5) 123*a*.
red-luminescing, (3) 77*g*.
relation of impurity contents, color centers, and lattice constants in, (3) 77*a*.
sand, bubble inclusions and surface features, (10) 241*a*.
sand, for glass polishing, effect of particle size, (4) 81*f*.
surfaces, adsorption studies, (5) 125*j*.
synthetic, cat's-eye gem, method of making, P (11) 256*b*.
growing of, P (9) 222*a*.
internal friction in, (10) 244*e*.
twinned, method for orienting electron microscope replicas of, (3) 76*e*.
X-ray determination, sources of error, (1) 21*f*.
Quartzite, deposits, of the Middle Rhine, Germany, (6) 145*j*.
diffusion of Fe_2O_3 in, evaluation by use of ^{59}Fe, (5) 127*c*.
fine-grained, effect of additions on mechanism of consolidation during firing, (10) 233*e*.
occurrence of manganian ferrian andalusite in, in New Mexico, (7) 174*g*.
and sea-water magnesia, synthesis of forsterite from, (4) 90*h*.
transformation, factors affecting, (1) 20*i*.
Quenching, calculation of stresses induced in glass by, (6) 134*h*.
in determination of phase diagram of cryolite–alumina, (3) 73*j*.
in measurement of glaze adherence, (4) 91*f*.
nonuniform, of glass disk, calculation of stresses, (7) 157*c*.
in study of system ZnO–TiO_2, (4) 101*j*.
Quicklime. See *Lime.*

Radiation. See also *Irradiation.*
barite concrete brick as protection from, (5) 113*f*.
damage, in diamond and SiC, (2) 47*h*.
to electrical conductivities of natural graphite crystals, (2) 47*j*.
in vitreous silica, annealing of density changes, (2) 47*b*.
effect on, engineering materials, (10) 244*i*.
glasses, applications in low- and high-level dosimetry, (9) 206*b*.
light transmission of glasses, (5) 109*f*.
infrared, in drying ware, (5) 120*b*.
and high-energy, relation to glass, B (6) 150*d*.
measurement in rotary kiln, (4) 96*i*.
measurement, of nonopaque bodies, P (4) 87*h*.
methods, for measuring temperature of unenclosed objects, (10) 240*b*.
nuclear, effects on materials, (8) 201*f*.
of K, L, and M series of elements, study of, (7) 173*e*.
solar, reflectance tests for measurement of heat from in cement, (11) 251*i*.
solar, transmission of cutoff glass filters used in, (2) 32*g*.
solar, windows for admitting, P (3) 70*i*.
spectral emission of, by glass, (10), 229*i*.
temperature, measurement, P (4) 97*a*.
Radioactive materials, electrostatic precipitator sample counter for, P (4) 97*a*.
wastes, self sintering of, P (5) 129*e*.
Radioactive tracers. See also *Isotopes.*
^{59}Fe, in evaluating diffusion of Fe_2O_3 in quartzites and siliceous products, (5) 127*c*.
in study of silicone film on glass, (6) 134*i*.
Radioactivity. See also *Isotopes.*
β-, of microcurie order, determination in self-luminous compounds, (3) 65*c*.
Radiography, micro-, in study of crystal dislocations, (9) 221*b*.
Radioisotopes. See *Isotopes.*

Radomes, alumina, by flame-spray process, (1) 7*j*.
microwave controlled grinding of, (2) 40*c*.
Rare earths (lanthanons). See also specific types.
advantages of X-ray spectrography in analysis of, (7) 179*a*.
compounds, DTA of, (8) 200*h*.
content, of Hardin County, Ill., clay, (9) 218*c*.
extraction from ores, P (1) 19*b*.
high-purity, X-ray emission spectrographic analysis, (7) 181*c*.
metals, structure and properties, (7) 161*a*.
oxides, effect of forsterite porcelain bodies, (4) 91*a*.
oxide systems, perovskite-type compounds in, (3) 77*b*. See also *Systems*.
phosphates, arsenates, and vanadates, relation of ionic radius to structure, (3) 77*a*.
polymorphism, (1) 21*b*.
separation, by distribution in two solvents, (9) 220*h*.
from multiple oxide minerals, (9) 220*i*.
of plutonium from, precipitation method, P (8) 202*a*.
from Th by ion exchange, (9) 220*e*.
from Th by salicylate process, P (1) 22*a*.
spectrographic analysis, (3) 77*j*.
vaporization at high temperatures by effusion, (6) 149*a*.
Raw materials. See also *Sands; Rocks*.
in Brazilian ceramic industry, (5) 129*h*.
for cement. See *Cement*.
ceramic, Li Al silicates as, (6) 145*j*.
measurement of thermal constants of, (7) 174*j*.
sericite shale as, (11) 268*a*.
for clay products, tests on, B (1) 25*j*.
deposits, digital computer for extending useful life of, (10) 246*f*.
deposits, of rocks and minerals in South Africa, (8) 198*e*.
Egyptian, flow properties of, (5) 120*i*.
German, important sources, (6) 145*j*.
glass. See *Glass; Sands*.
glass-ceramic, wear resistance of nonmetallic grinding bodies in vibrogrinding of, (6) 144*d*.
heterogeneity, estimation of, (8) 198*d*.
metallurgical, Russian dolomite sand as, (9) 218*c*.
for pozzolan production, (11) 250*j*.
West German, for ladle brick and lining, (2) 35*j*.
Reactions, of glass powders with SrO, CaO, and MgO, (10) 228*j*.
Reactivity, of CaO, determination by DTA and hydration calorimetry, (7) 172*c*.
of glasses, effect of pretreatment and transition processes, (5) 109*j*.
of lime and related oxides, I, II, (8) 201*b*.
in solid state, practical applicability, (1) 21*d*.
Reactors. See also *Energy; Power*.
nuclear, ceramic materials for controls, (9) 210*i*.
enamels for shields for, (8) 187*c*.
fuel element for, P (1) 10*b*.
materials for, B (10) 247*h*.
molten fluoride as fuel for, P (5) 114*a*.
SiC for, (10) 234*a*.
UO_2 fuel elements for, (1) 8*j*.
wire fuel element for, P (11) 252*g*.
Pyrocore, in new Thermocatalytic Combustion System, (7) 160*c*.
Reagents. See also specific types.
Komplexon, for rapid determination of alumina content of clays and grog, (7) 177*j*.
Recrystallization. See *Crystallization*.
Rectifiers, mechanical, for arc furnace, P (7) 166*d*.
from semiconductor body, P (4) 94*h*.
SiC, P (8) 195*a*; P (9) 215*e*.
Recuperators. See *Furnaces; Kilns; Refractories*.
Reducibility, of metal compounds, factors affecting, (9) 219*f*.
Reflectance. See *Reflection*.
Reflection, measurements, on rare-earth iron garnets and α-Fe_2O_3, (10) 237*a*.
(111), for diamond, absolute measurement of intensity, (8) 199*h*.
spectra, of VO_2 and VO_2-TiO_2 solid solutions, (5) 125*d*.
specular, precise measurement, (5) 119*i*.
standards of, (7) 179*a*.
in study of lattice defects in alumina ceramics, (10) 243*f*.
tests, for concrete curing materials, (11) 251*i*.
X-ray, of quartz, effect of thermal motion on, (9) 219*e*.
Reflectivity. See *Reflection*.
Reflectometer, use for whiteness measurement, (5) 119*g*.
Refraction, birefringence, nomograms, (8) 197*a*.
Refractive index, of crystal fragments, spindle stage for determination, (7) 181*j*.
determination in high dispersion media, graphs for elimination of Hartmann Net, (3) 75*b*.
in determination of mixed layering in glauconites, (7) 171*j*.
in determination of thermal expansion of fired glaze, (1) 10*g*.
elastic coefficient of, of vitreous silica, (9) 220*a*.
of fused quartz and lithium fluoride, (6) 148*g*.
of MgF_2 crystals in visible spectrum, (9) 220*j*.
of optical glasses in infrared, (2) 31*j*.
Refractivity. See *Refraction*.
Refractories, B (8) 202*i*. See also *Aircraft ceramics; Insulation, thermal; Kiln furniture; Silicon, carbide*.
abrasion resistance, laboratory tests, (3) 60*g*.
alumina, analysis of Al in, (7) 181*d*.
brick, for rotary kiln refining zone, (2) 43*j*.
dense volume-stable, for blast furnace linings, (10) 234*j*.
development and use, (7) 160*i*.
high-, properties, (3) 61*a*.
plastic shaping by use of paste, (1) 8*i*.
Refractories, alumina (*continued*)
for rotary kilns used for iron reduction, (6) 140*b*.
aluminosilicate, action of V_2O_5 on, (11) 258*b*.
reaction of interface with molten steel, (10) 233*b*.
spectrographic determination of minor constituents, (4) 88*i*.
aluminous, contraction tests of, (3) 60*f*.
aluminous, products, flow at high temperatures, (3) 60*i*.
for Al and Cu production, (5) 113*i*.
arch, monolithic, in stoker-fired water-tube boiler, (10) 232*i*.
articles, forming method, P (9) 212*d*.
articles, with SiC layer and facing layer, P (10) 235*f*.
baddeleyite-corundum electrofused, microstructure before and after use in glass furnace, (6) 138*g*.
Bakor, use in glass furnace, effect on microstructure, (6) 138*g*.
Bakor, production scale manufacture and industrial testing, (6) 139*g*.
barite concrete brick for protection against radiation, (5) 113*f*.
basic, B (8) 202*i*. See also *Refractories, chrome-magnesite*.
arch roof, for open-hearth furnace, P (8) 192*j*.
brick, P (8) 193*b*.
brick, spinel-bonded, development, (7) 161*d*.
casting large sections for open-hearth bottoms, (11) 258*f*.
chemically bonded, P (11) 260*f*.
cupola, design and operation, (7) 160*c*.
high-temperature strength, (4) 88*g*.
metal encased cantilevered, P (7) 161*e*.
for open-hearth furnace construction, P (8) 192*a*.
oxygen furnace, study of, (7) 160*d*.
rapid analysis of MgO clinker for, (11) 259*c*.
roof, for open-hearth furnace, P (2) 37*c*.
blast-furnace, linings. See *Refractories, linings*.
blocks, for glassmelting tanks, (6) 140*e*.
metal clad, P (4) 89*c*.
siliceous fire-clay coke-oven, test of volume stability, (11) 259*e*.
bodies, for fuel element, method of disintegrating, P (1) 10*a*.
introduction of radioactive indicator ^{42}Ca, (2) 36*b*.
for molds for glass feeder plungers, (6) 138*b*.
plasticity of, (11) 261*j*.
sintered or bonded, for use in contact with molten silicate glass, P (5) 114*f*.
boiler, operating temperatures and construction developments, (3) 60*d*.
bond strength, development during firing, (6) 138*a*.
Brazil, problems of use in steel mills, (7) 160*h*.
brick. See also *acid, basic*, and specific types under *Refractories*.
classification by flux content, (8) 191*f*.
equation for absorption coefficient for molten slag of, (6) 138*d*.
grogless, from Russian kaolin and semiacid clay, (10) 232*e*.
lightweight, with bulk density of 1.0 gm./cm.^{3}, (3) 61*e*.
lightweight, by dolomite-sulfuric acid method, (8) 191*i*.
molding with metallic plates, P (2) 37*i*.
study of slagging resistance, (11) 258*e*.
unfired, containing grinder dust, P (8) 193*d*.
from waterworks filtration sludge, (4) 88*f*.
brickwork, in forge furnaces, (11) 259*e*.
carbon, brick, for blast furnace lining, (4) 88*d*.
improving strength and porosity, (4) 88*e*.
shaped bodies, P (4) 89*j*.
castable, consistency meter in control of properties of, (10) 232*d*.
in installation and maintenance of steel plant equipment, (5) 113*b*.
mix for, P (4) 89*f*.
casting-pit, aluminosilicate, measurement of pore dimensions and distribution, (10) 234*c*.
casting-pit, problems of, (3) 61*c*.
cement, for coke ovens, (11) 259*d*.
cement, manufacture in Romania, (2) 36*a*.
checkers, assembly, P (9) 212*f*.
open-hearth, service of forsterite, Dinas and high-alumina fire-clay brick in, (9) 211*c*.
of open-hearth regenerators, Dinas chromite in, (10) 234*e*.
study of destruction from temperature and gaseous atmospheres, (10) 233*h*.
checkerwork structure, old European, (2) 34*h*.
chrome-magnesia, brick, used in open-hearth furnace, X-ray studies, (11) 259*c*.
chrome-magnesite. See also *Refractories, magnesite-chrome*.
brick, effect of reducing conditions and of ferruginous slags, (11) 258*c*.
brick, experiments in Russian plant, (10) 232*g*.
used, petrological and X-ray studies, (10) 232*c*.
waste, in production of brick, (9) 212*c*.
chrome spinelide, effect of iron oxide on during heating, petrographic study, (3) 60*j*.
clays. See *Clays*.
coatings. See *Coatings*.
for coke ovens, development, properties, and production, (11) 259*d*.
compacts, UO_2-impregnated, P (10) 235*i*.
compositions, based on Si-B-O reactions, (11) 259*e*.
concrete, with Ba aluminous cements as binders, (6) 133*b*.
for coke ovens, (11) 259*d*.
from fused alumina cement, B (6) 152*i*.
control testing, importance of, (7) 160*e*.
Refractories (*continued*)
cordierite, reaction sequence and structural changes in, (8) 192*a*.
corrosion, controlling mechanism in, (3) 61*f*.
corundum, brick, destruction by coal ash, (8) 191*d*.
crucibles, for arc-melting furnace for Ti, (1) 16*d*.
dehydration of slurry in manufacture of, (10) 232*h*.
glassmelting, fabrication and corrosion, B(10) 248*g*.
long lip, P (11) 260*b*.
miniature, for laboratory use, P (8) 192*e*.
slip-cast CaF_2, preparation and properties, (3) 61*b*.
Ta, protection from reaction with molten uranium, P (11) 261*b*.
transparent, for high temperatures, (7) 161*e*.
from zircon and fireclay-zircon bodies, (11) 259*j*.
Crystolon 63, new high temperature, (11) 258*i*.
cupola, design and operation, (7) 160*c*.
Dinas, brick, for crown of glass tank, (8) 188*h*.
brick, improvement of properties, (6) 138*f*.
brick, increasing firing efficiency, (3) 69*i*.
chromite, in checkers of open-hearth regenerators, (10) 234*e*.
coking, trial firing in tunnel kiln, (1) 16*g*.
dependence of elastic properties on technological factors, (9) 210*g*.
fine-grained bodies, physicochemical nature of consolidation during firing, (10) 233*e*.
increased abrasion resistance, (3) 60*g*.
regularity of change in elastic properties during heating, (10) 233*f*.
service in open-hearth checkers, (9) 211*c*.
strength and modification during firing at 1600°, (1) 9*c*.
dolomite, hydration-resistant, low thermal stability of, (6) 139*a*.
-magnesia, tar bonded, study of, (7) 160*d*.
ramming mixes, technical properties, (9) 211*i*.
at Durgapur, India, facilities for, (5) 113*j*.
elasticity-temperature relations in, (1) 8*g*.
erosion, as contaminant in cast metal, radio active isotope study, (8) 191*j*.
filter block, molded porous, P (4) 89*d*.
firebrick, advantages of direct casting in plant, (11) 257*f*.
composite, P (3) 62*g*.
dry-pressing experiments, (1) 8*i*.
impregnated with alkali salts, CO attack on, (10) 232*a*.
industry, control of maintenance costs, (11) 258*h*.
refractoriness under load, (5) 113*d*.
fire-clay, brick, high-alumina, service in open-hearth checkers, (9) 211*c*.
brick, ladle trials on, (1) 9*j*.
brick, structure, (8) 191*f*.
brick, thin section study of texture, (4) 88*h*.
high heat duty, specification, (7) 160*j*.
moderate heat duty, Indian standards, (6) 138*j*.
service in tube furnace for secondary firing of Fainshtein, (8) 192*c*.
-zircon, crucibles, (11) 259*j*.
firing, shaft kiln for, (3) 69*a*.
forsterite, brick, effect of reducing conditions and of ferruginous slags, (11) 258*c*.
brick, service in open-hearth checkers, (9) 211*c*.
manufacture of, (2) 36*a*.
manufacture from clinker, (9) 211*g*.
production of clinker for, (6) 139*d*.
for foundry use, (7) 160*g*.
fused cast, from chromite ore, P (5) 114*g*.
composition, P (5) 114*f*.
development and uses, (7) 160*i*.
quality control, (7) 160*g*.
of ZrO_2 and Al_2O_3, P (3) 62*h*.
ZrO_2-Al_2O_3, production scale manufacture and industrial testing, (6) 139*g*.
gallina quartz as additive, P (5) 114*c*.
gas permeability, statistical relation to cold compressive strength and porosity, (11) 259*j*.
in glass pots, protective coatings for, (3) 61*c*.
in glass tank furnaces, survey of, (6) 140*d*.
glassy phase, modified method for determining at high temperatures, (7) 160*g*.
grading, theory of Sizer method and practical results, (11) 259*h*.
grog, semidry pressed, effect of moisture content and forming pressure on density, (9) 210*j*.
high-grog, vibrogrinding of grog for improving quality of, (3) 62*a*.
high-strength low-porosity, (4) 88*e*.
high temperature, composition, P (6) 140*c*.
at high temperatures, mechanical properties, (6) 139*b*.
hot tops, composite liner insert for, P (4) 89*j*.
construction, P (11) 260*a*.
protective lining for, P (10) 234*h*.
sectional, P (2) 37*e*.
slotted, P (4) 90*c*.
for incineration, ASTM specifications and evaluation of properties, (3) 60*i*.
insulating, brick, of chemically bonded vermiculite, P (5) 114*e*.
brick, thermal conductivity of, (4) 89*b*.
from metallurgical slags, (2) 36*f*.
method of making, P (6) 140*e*.
relation between bulk density and thermal conductivity in, (1) 8*e*.
from waterworks filtration sludge, (4) 88*f*.
IUPAC Commission on, (8) 191*i*.
for kiln furniture. See *Kiln furniture*.
kyanite, based on Kelvsk rock, (9) 211*c*.
ladles, brick, factors affecting performance, (1) 8*g*.

Refractories, ladles (*continued*)
brick, laboratory evaluation, (1) 8*c*.
brick, and lining, from sand-containing clays, (2) 35*j*.
consumption and properties, (3) 61*c*.
firebrick, evaluation of quality and performance, (10) 232*a*.
flow control device, P (6) 140*d*.
grogless brick tested in, (10) 232*e*.
linings, service of, (2) 36*g*.
linings, statistical analysis of factors affecting, (1) 9*h*.
tests on fire-clay brick for, (1) 9*j*.
lightweight, grog, with bulk density of 1.0 gm./cm.^{3}, (3) 61*e*.
lime, high-calcium, P (6) 140*c*.
lime, composition, P (11) 252*d*.
linear changes during firing and reheating, (2) 35*h*.
linings, basic, from used arch brick, pneumatic rammed, (10) 233*j*.
carbon brick for, (4) 88*d*.
for chamber to help contain controlled H-bomb reaction, (4) 88*d*.
dense volume-stable high-alumina for blast furnace, (10) 234*a*.
friction, for clutch or brake, P (10) 235*b*.
on hot top, P (10) 234*h*.
isotopes in study of wear in blast furnaces, (2) 45*b*.
for ladles, zirconite sand for, (5) 113*j*.
for limekilns, mechanism of attack, (3) 54*f*.
metal clad, P (4) 89*c*.
for mills, of ZrO_2 and Al_2O_3, P (3) 62*h*.
patching with lightweight aggregate, P (1) 16*e*.
for radiant wall furnace, P (4) 89*i*.
retarding C disintegration, P (4) 89*f*.
for rotary kilns, P (2) 37*b*.
for rotary kilns, drying of, (7) 160*f*.
silica brick, choice of mortars for, (5) 113*c*.
in tube furnace for firing Fainshtein, (8) 192*c*.
ultralightweight, for kiln for heating steel shapes, (8) 192*f*.
luminescence analysis for investigating, (2) 37*a*.
magnesia, aqueous slip casting, (3) 61*j*.
brick, sintered, German and Austrian patents, (2) 36*j*.
development and use, (7) 160*i*.
magnesite. See also *Refractories, chrome-magnesite*.
arch brick, with orifices, pressing of, (6) 139*c*.
brick, kieserite roasting residues in manufacture of, (6) 146*a*.
effect of reducing conditions and ferruginous slags, (11) 258*c*.
factors affecting microstructure, (1) 8*d*.
measurement of elastic aftereffects during pressing, (9) 211*d*.
plastic shaping by use of paste, (1) 8*i*.
properties, (3) 61*a*.
magnesite-chromite, arch brick, unfired, (3) 61*h*.
brick, unfired, with holes for suspension pins, (3) 61*i*.
brick, unfired, for roof of open-hearth furnace, (8) 191*c*.
powder, in pneumatic rammed lining for steel furnaces, (10) 233*j*.
manufacture from Arkalykskil clays, (1) 17*c*.
markets, in south central U.S., (10) 234*g*.
materials, behavior in alkaline tripotassium hexacyanoferrate (III) solutions, (5) 123*g*.
as binder for foundry molds, P (7) 161*h*.
control and applications, (7) 160*e*.
creep of, (1) 8*b*.
destruction processes at high temperatures and in changing gaseous atmospheres, (10) 233*h*.
electric arc resistance furnace for melting, P (11) 267*g*.
electric resistor metal coatings on, P (3) 65*i*.
magnesite as, history of, (1) 17*j*.
porous, P (6) 140*g*.
preparation for analysis, (2) 36*d*.
program of Federal Bureau of Mines, (2) 36*g*.
properties, B (1) 23*f*.
silica as, (2) 44*j*.
slip casting of, P (10) 235*h*.
spheroidal, P (7) 162*a*.
statistical relation between cold compressive strength, porosity, and gas permeability, (11) 259*j*.
test methods, (2) 42*j*.
test specimens, (3) 61*g*.
total emissivity above 900°C., (3) 61*j*.
wetting by molten glass, (3) 62*b*.
mechanical properties at high temperatures, (6) 139*b*.
for melting technical glass in continuous glass tanks, (9) 211*f*.
-metal alloys, reinforced heat-resistant, P (11) 261*c*.
metals, cemented, in sintered shaped bodies, P (4) 90*a*.
mica, brick, effect of pore size on thermal conductivity, (4) 88*e*.
minor constituents, spectrographic analysis, (4) 88*i*.
molds. See *Molds*.
molybdenum disilicide, improving high-temperature strength, P (2) 37*h*.
monolithic, in steel plant equipment, (5) 113*b*.
mullite, slagging by CaO and CaO + MgO, (11) 258*e*.
mullite-corundum, thermally stable, trial production, (2) 36*d*.
new high temperature, Crystolon 63, (11) 258*i*.
nonreactive to TiO_2 and alkaline earth titanate dielectrics, P (3) 62*d*.
nozzles, steel-pouring, magnesite inserts for, (6) 139*f*.

Refractories (*continued*)
open-hearth, brick, corrosion tests, (7) 160*d*.
oxides, electrically conductive at high temperatures, P (10) 234*j*.
hot pressing of, theory and practice, (1) 9*a*.
slip casting of, (4) 88*h*.
periclase, brick, spinel-bonded, development, (7) 161*d*.
periclase, factors affecting microstructure, (1) 8*d*.
phosphate bonding of, (11) 259*b*.
plant, in West Bengal, India, (5) 113*j*.
plants, in Lübeck, (6) 131*i*.
pore size distribution, determination, (8) 191*d*.
pore structure, appearance and size distribution, (8) 191*a*.
porosity, statistical relation to cold compressive strength and gas permeability, (11) 259*j*.
porous body, coating and infiltrating, P (10) 235*d*.
pressing at high temperatures, research on, (9) 211*a*.
problems of use in Brazil steel mills, (7) 160*k*.
products, equipment and procedure for palletized loading and shipment, B (2) 50*k*.
properties, of Alabama bauxitic kaolins, (3) 70*i*.
raw materials, for better foundry products, (7) 160*g*.
raw materials, sources in south central U.S., (10) 234*g*.
reaction with molten steel, III, (10) 233*b*.
refractoriness, tests, of portion of system CaO–MgO–SiO_2–Al_2O_3, (3) 61*e*.
under load, factors affecting significance, (3) 60*g*.
under load, of firebrick, studies on, (5) 113*d*.
regenerators, sectionalized, for furnace control and increased efficiency, (8) 197*e*.
regenerators, sizes for glass furnaces heated with natural gas, (8) 197*e*.
resistance supporting plate for electric heater, P (4) 89*j*.
in rocket age, progress in research, (11) 259*d*.
in rocket nozzles, evaluation of, (3) 60*h*.
roofs, for arc-furnace, zirconia-silica brick for, (3) 61*i*.
basic, correlation of performance with test data, (4) 88*g*.
basic, for open-hearth furnaces, P (2) 37*c*.
magnesite-chromite, in open-hearth furnace, (2) 36*g*.
magnesite-chromite, unfired, for open-hearth furnace, (8) 191*e*.
silica, effect of porosity on performance, (10) 233*b*.
silica, open-hearth brick, spalling parameters determined by hot-plate test, (11) 259*h*.
for rotary kiln refining zone, (2) 43*j*.
for rotary kilns used for direct reduction of iron, (6) 140*b*.
runner brick, from dunite and talc magnesite, (1) 9*b*.
runner brick, factors affecting performance, (1) 8*g*.
seal material, of CrN, Ni, and Ag, P (9) 212*f*.
semiconductive, for heating element, P (8) 192*c*.
semisilica, brick, from Kansas clay and silt, (8) 191*b*.
service life, in basic oxygen furnace, factors affecting, (7) 160*d*.
setting on kiln cars, automation of, (8) 195*j*.
silica, effect of firing duration and temperature on properties, (6) 138*f*.
effect of TiO_2 on properties, (6) 138*g*.
for general purposes, Indian standards, (6) 140*c*.
relation between constitution and properties, II, III, (4) 88*f*.
relation between thermal expansion and mineralogical composition, (11) 259*f*.
roof, effect of porosity on performance, (10) 233*b*.
zirconia-, brick, for arc-furnace roofs, (3) 61*i*.
silica brick, analysis with Siemens Kristalloflex III equipment, (8) 191*k*.
for coke ovens, iron spots in, (11) 259*d*.
extraction and flame spectrophotometric determination of Al in, (3) 74*c*.
low fired, P (2) 37*g*.
open-hearth roof, determination of spalling parameters by hot-plate test, (11) 259*h*.
overcoming of problems in, (11) 258*g*.
practical test, (7) 160*d*.
spalling of, (10) 234*h*.
transformation behavior, (1) 9*c*.
used, X-ray studies of cristobalite in, (11) 259*a*.
uses and applications, B (8) 202*i*.
siliceous fire-clay coke-oven blocks, test of volume stability, (11) 259*e*.
silicoaluminous, in limekiln, changes in, (8) 192*k*.
silicoaluminous, resistance to sudden cooling, (3) 61*g*.
SiC, method of making articles from, P (10) 235*f*.
SiC, plastic shaping by use of paste, (1) 8*i*.
sintered, instrument for measuring thermal conductivity at high temperatures, (5) 196*j*.
sintered ferrous articles, measuring strength of, P (11) 260*k*.
Sizer method of grading, theory and practical results, (11) 259*k*.
slag. See *Slags*.
slagging of, I, (3) 61*f*.
solid, surface energy factors affecting reaction with liquid slag, (2) 35*d*.
spalling, parameters of silica open-hearth roof brick determined by hot-plate test, (11) 259*h*.
of silica brick, (10) 234*h*.
simple and complex forms, (11) 259*g*.

Refractories, spalling (*continued*)
sonic test, (11) 272*b*.
spheroidal particles of 8-mesh size, P (7) 162*a*.
spinel, from Indian bauxite, (4) 88*j*.
steel contamination from, study by isotopes, (6) 140*f*.
steel-pouring, rapid firing in gas-fired annular kiln, (1) 9*f*.
stoppers, from dunite and talc magnesite, (1) 9*b*.
strength, cold compressive, statistical relation to porosity and gas permeability, (11) 259*j*.
study of, by luminescence analysis, (2) 37*a*.
superduty plastic, quality parameters, (9) 211*i*.
surfaces, combatting slag formation on, P (11) 260*c*.
technology, solid state reactivity in relation to, B (10) 248*g*.
testing, contraction, of aluminous materials, (3) 60*f*.
testing methods, B (8) 202*i*.
texture of, (10) 234*c*.
thoria, reinforced by metal fibers, properties at room and elevated temperatures, (10) 234*c*.
TiO_2–Al_2O_3 slags for producing, (6) 140*k*.
Ti silicide, forming method, P (6) 140*d*.
tubes, in recuperators for glass tank furnaces, (3) 69*g*.
tuyère blocks for underfeed stokers, P (5) 114*i*.
ultralightweight, in electric resistance kilns, (8) 192*f*.
use of Nev'yansk kaolins in, (1) 17*j*.
used, from open-hearth furnace, studies on, VII, VIII, (11) 259*a*.
vitreous, composition and method for making, P (11) 261*f*.
vitreous phase, determination at high temperatures, (7) 160*g*.
ware, Israeli flint clay for, (9) 218*d*.
zircon, and fire clay-zircon, crucibles, (11) 259*j*.
zirconia, firing experiments, (11) 258*c*.
stabilized, development and use, (7) 160*i*.
-silica, brick, for arc-furnace roofs, (3) 61*i*.
zircon-mullite, fused-cast, trial use in caissons of open-hearth furnace, (9) 212*a*.
Refractories industry, natural gas as fuel for, (8) 197*j*.
Regenerators. See *Furnaces; Refractories*.
Relaxation, acoustic, in Mn_2O_3, (10) 243*c*.
anisotropic, in internal friction of crystalline quartz, (10) 243*d*.
time, spin-lattice, of ^{29}Si nucleus in pure fused silica, (10) 245*e*.
Research and research laboratories, ceramic, at Mines Branch, Ottawa, (7) 182*c*.
on ceramic tools, (10) 225*c*.
challenge to engineer, (9) 222*f*.
equipment for, (7) 178*j*.
at Haeger potteries, (8) 185*h*.
National Bureau of Standards annual report, 1959, (5) 129*i*.
on plumbing fixtures, (8) 185*i*.
Portland Cement Association's 10 years of progress in, (10) 226*c*.
in refractories industry, progress, (11) 259*d*.
research problems, B (1) 24*i*.
Russian, advances in, (5) 129*g*.
value and use in industry, (10) 246*f*.
Resins. See also *Plastics*.
Araldite, for ceramic plaster modeling, (5) 144*j*.
in carburation of generator gas in glassmelting furnaces, (1) 5*j*.
classification for formulating adhesive materials, use of contact angle measurements, (11) 254*f*.
glass reinforced, for forming solid structural members, P (10) 230*a*.
for injection molding, factors affecting fluidity, (11) 268*k*.
ion exchange, in analysis of rocks and minerals, (3) 78*j*.
Lekutherm, in models for fine ceramics, (8) 194*c*.
organic, ceramic-filled, as coatings for magnet wire, (4) 83*j*.
synthetic, finishing abrasives for, (4) 81*i*.
thermosetting, in forming ceramic articles, P (10) 239*c*.
thermosetting synthetic, addition to plaster molds, (8) 194*b*.
Resistance. See also *Electric resistance*.
aerodynamic, of tunnel kiln setting, (2) 43*c*.
Resistivity, d.-c., of Indian mica, (4) 98*f*.
electric, of ferrites, changes in a magnetic field, (9) 213*k*.
electric, of semiconductors at high pressure, (7) 172*k*.
magneto-, in carbons and graphites, (2) 39*d*.
Resistors. See *Electric resistors*.
Resonance, electron spin, relation to optical absorption in irradiated quartz and silica, (9) 208*e*.
ferrimagnetic, in yttrium iron garnet, (4) 92*i*.
frequencies, flexural and longitudinal, relation to Young's modulus in uniform bars, (8) 199*j*.
measurements in magnetic garnets, (9) 214*h*.
microwave, relations in anisotropic single-crystal ferrites, (4) 92*j*.
nuclear magnetic, in B_2O_3–H_2O glasses and boric acids, (10) 228*c*.
paramagnetic, of iron in glass, (10) 228*b*.
screens, in quarries, design principles, (6) 146*d*.
widths, in polycrystalline Ni-Co ferrites, (11) 263*j*.
Resonators, piezoelectric ceramic, P (11) 264*b*.
Rhenium, for high-temperature use, (3) 70*j*.
tungsten-, thermocouples, P (11) 267*k*.
Rheology, of aggregates containing liquid phase (6) 139*b*.
of alumina suspensions, effect of aging, (2) 48*e*.
of ceramic slips and bodies, (11) 271*a*.
of clay bodies, fundamental properties, (11) 271*h*.

Rheology (*continued*)
of disperse systems, conference proceedings, B (6) 152*j*.
elementary introduction, B (11) 273*g*.
micro-, of pigment dispersion by ball milling in nonaqueous media, (9) 215*g*.
of vibrated concrete, use in selection of admixtures, (5) 107*f*.
Rigidity, dynamic, of viscoelastic liquids, II, (11) 271*e*.
modulus, of silica refractories, (4) 88*g*.
Rockets, nozzles, solid propellant, evaluation of refractory materials in, (3) 60*h*.
refractories for, (11) 259*d*.
Rocks. See also *Phosphates; Silica;* and *Silicates.*
analysis, use of ion exchange resins, (3) 78*j*.
argillaceous, DTA of transformations of, (11) 272*e*.
argillaceous, Romanian, as replacement for bauxite in Al industry, (3) 70*e*.
carbonate, relation of insoluble residue to Mg content, (7) 174*c*.
cherty, cherty nodules in Fe-Mn deposits in, (1) 17*g*.
crusher, P (10) 242*f*.
crystal, transformation, factors affecting, (1) 20*i*.
deposits, in South Africa, (8) 198*e*.
igneous, composition compared to tektites, (8) 199*i*.
impact crusher for, P (1) 18*b*.
industrial, B (6) 150*e*.
Kelvak, in kyanite refractories, (9) 211*c*.
macropoint counting method of modal analysis, (6) 148*h*.
Mg in, rapid photometric determination, (4) 101*c*.
magnetization, exchange anisotropy of, (9) 213*i*.
siliceous, estimation of quality as admixture for Portland cement, (10) 226*b*.
thermoluminescence of, I, (7) 181*f*.
trace elements in, matrix corrections in X-ray spectrographic analysis, (3) 75*j*.
weathering, and clay formation in Hawaii, (10) 241*c*.
X-ray fluorescence analysis, (7) 181*f*.
Rock wool. See *Mineral wool.*
Roofing materials, artificially colored, P (10) 231*i*.
granules, color coated, method for, P (1) 11*h*.
Rocherite, Be content, from Brazilian pegmatite mine, (3) 73*b*.
Roughness. See *Surface.*
Rubber, systems. See *Systems.*
Rubidium, in Pb and Ba glasses, (9) 208*f*.
oxide, systems. See *Systems.*
Ruby, absorption spectra at low temperatures, (10) 243*b*.
determination of *c* axis by optical method, (7) 176*g*.
luminescence decay time, study by pulse taumeter method, (7) 174*j*.
single crystal, paramagnetic fine structure spectrum of Cr^{3+} in, (2) 47*e*.
Rupture, modulus, vs. rate of loading, (1) 15*e*.
modulus, of unfired clay, effect of preparation and testing, (11) 268*j*.
Rutile. See also *Titanium, dioxide.*
as coating for golf club head, P (3) 55*g*.
in engineering, (8) 193*f*.
magnetic susceptibility of, (7) 174*e*.
pigment, wet milling of, P (8) 198*i*.
preparation from ilmenite, P (5) 122*a*.
properties, preparation, sources, and impurities, (2) 45*a*.
for use in optics and electronics, (6) 142*g*.

Safety. See also *Health.*
device, for pneumatically controlled press, P (11) 266*c*.
equipment, for head, eye, and respiratory protection, (3) 79*h*.
in manufacture of Th-containing glass, (7) 156*e*.
Saggers. See *Kiln furniture.*
Saléeite, and meta-saléeite I, synthetic, (5) 128*e*.
Sales, training manuals, for casual china, stemware, and decorated glassware, (7) 182*d*.
Salts, fused, continuous measurement of high temperature heat content, (11) 254*f*.
fused, new acid-base concept, (11) 253*b*.
Rochelle, photoelastic study of crystals, (11) 271*g*.
Rochelle, X-ray study of nonferroelectric phases, (10) 245*a*.
NaCl. See *Sodium, chloride.*
soluble, interaction with clay and carbonate during DTA, (3) 73*j*.
Samarium, $BaTiO_3$ containing, electric properties of, (4) 92*h*.
substitutions in Y Fe garnet, (10) 237*g*.
thermochemistry of, (9) 221*e*.
Sampling, deep, in glasses, apparatus for, (10) 227*g*.
Sanbornite, crystal structure of, (3) 73*f*.
Sand, bed, prevention of sintering, P (11) 269*j*.
classified and manufactured, trend toward use of, (3) 70*g*.
clay-bonded, control of molding properties by green strength and shatter tests, (1) 8*a*.
dolomite, Russian, as metallurgical raw material, (9) 218*e*.
fine quartz, from Urals, use in glassmelting, (6) 135*e*.
fused silica from, P (4) 100*f*.
glass, beneficiation in hydrocyclone, (1) 17*d*.
glass, requirements for, (2) 32*h*.
ilmenite-bearing, in Okla., (7) 166*i*.
molding, practical pH control for, (5) 113*h*.
molding, principles and methods for testing and grading, (5) 113*c*.

Sand (*continued*)
quartz, bubble inclusions and surface features, (10) 241*a*.
silica, quick method for estimating alumina in, (7) 177*c*.
stockpile, measuring method, (2) 44*i*.
test specimens, reproducibility study, (5) 113*j*.
vibromilled, for use in borosilicate glass, (6) 135*f*.
wet, apparatus for continuous drainage, P (3) 71*g*.
white, British Guiana, as glass sand, (5) 121*d*.
zirconite, for ladle linings, (5) 113*j*.
Sandblasting. See *Blasting.*
Sander, vibrating, for applying wet sand to brick faces, (9) 210*e*.
Sandpaper. See *Abrasives.*
Sanitary ware, acceleration of casting rate by vibration, (2) 41*h*.
casting on conveyers, heat-treatment during, (10) 236*c*.
fixtures and installations in Europe, I, II, (6) 141*h*.
lavatory basin, asymmetric design, (4) 82*a*.
plant, use of pyroplastic index method, (2) 34*i*.
research and design at Crane plant, (8) 185*i*.
use of glazes and engobes for, (7) 162*j*.
vacuum casting of, (5) 115*e*.
Sawdust, poplar, in polishing material for glass sheet, P (11) 256*h*.
in sillimanite and kyanite insulating brick, (10) 234*d*.
Saws, band, diamond edged, P (7) 153*f*.
masonry, equalizer structure for, P (7) 165*b*.
Scattering, of depolarized components of light by glasses, I, II, (3) 56*f*.
Scawtite, crystal chemistry of, (3) 73*d*.
Schlieren, in glass. See *Glass, cords.*
Schools. See *Education.*
Science, application in industry and technical progress, B (1) 24*i*.
objectives and characteristics in free world and Soviet world, (5) 129*h*.
Scientific studies, cooperation between Jena University and Jenaer Glaswerk Schott & Gen., (3) 79*h*.
Russian grammar, for technical literature, B (2) 50*i*.
Screen process printing. See *Decoration.*
Screens, image storage, of SiO, P (1) 13*d*.
luminescent, electrically conducting, P (5) 111*h*.
high brightness long persistency, P (9) 209*a*.
improving adherence, P (3) 59*c*.
increasing dry adhesion of, P (4) 87*i*.
settling system, P (4) 86*h*; P (6) 143*e*.
transparent, P (2) 34*f*.
phosphor, patterned, in post acceleration cathode ray tubes, P (11) 255*e*.
phosphor, preparation, P (8) 195*g*.
Screens and sieves, adjustable, P (3) 67*h*.
aperture count, method of making, (11) 266*h*.
apparatus, P (5) 118*j*.
curved, for purification of clay suspensions, (11) 264*j*.
with curved deck, for wet screening, P (10) 241*f*.
heavy-duty test, for abrasive materials, (1) 14*f*.
molecular, for atmosphere control, (6) 148*i*.
multifraction, using air stream method, (9) 216*i*.
plansifter compartment, P (2) 42*d*.
preventive maintenance, I, II, (6) 146*c*.
resonance, in quarries, design principles, (6) 146*d*.
screen bed for green pellets, P (4) 90*a*.
selection of screening surface, (1) 14*c*.
vibrating, P (1) 14*i*; P (4) 96*d*; P (7) 165*e*.
for liquid-solid suspension; P (9) 216*e*.
principles and problems of classification by, (6) 144*b*.
screen deck structure for, P (4) 96*c*.
Sculpture. See *Art and artware.*
Seals and sealing. See also *Bonding; Soldering.*
air, for separators, P (4) 95*i*.
apparatus, for miniature glass structures, P (11) 255*j*.
arbor, for welding glass neck to glass cathode-ray tube, P (6) 143*d*.
ceramic-to-metal, gastight, P (4) 91*b*.
compositions, application to glass parts, P (3) 66*g*.
of electrical heating elements, ceramic material for forming, P (4) 93*b*.
of electric lamps, P (2) 33*b*.
of faceplates to cathode-ray tubes, machine for, P (11) 256*f*.
gastight, for bearing structure, P (4) 86*g*.
glass, composite, P (8) 189*b*.
laminated joint for, P (9) 209*j*.
reliability for undersea cables, (5) 116*d*.
for resistor, P (8) 195*c*.
of glass exhaust tube into glass member, P (11) 256*c*.
glass-to-glass, P (8) 189*c*.
glass-to-metal, apparatus, P (8) 188*j*.
in cathode-ray tubes, P (1) 6*j*; P (6) 143*h*; P (9) 209*b*.
and ceramic-to-metal, for electron tubes, B (7) 183*c*.
and ceramic-to-metal, metalizing in, B (6) 151*h*.
and ceramic-to-metal, metals and alloys for, B (7) 182*i*.
composition, P (11) 255*b*.
five methods, (10) 227*j*.
glass composition for, P (8) 189*j*; P (11) 255*f*.
lithia-free glass for, P (9) 209*f*.
in optical device, withstanding liquid oxygen, (1) 4*i*.
preoxidation by H of stainless steel for, P (8) 190*a*.
statistical methods for process control in, (7) 164*i*.
of glass parts, P (5) 112*g*.
of glass tank regenerator and recuperative system, compositions for, (10) 228*g*.

Seals and sealing (*continued*)
for gyratory crusher shafts, P (5) 122*h*.
high pressure vitreous insulating, for coaxial electrical cable system, P (11) 264*a*.
material, of CrN, Ni, and Ag, P (9) 212*f*.
mechanism, for evacuated vessels, P (6) 143*d*.
of metal borate solder glass to mica or glass, P (5) 112*g*.
metal-to-ceramic, hermetic, P (5) 117*e*.
metal-to-glass, apparatus, P (2) 34*a*.
metal-to-glass, for electrical circuit component, P (1) 6*j*.
of piece in one end of tube made of sintered material, P (5) 118*h*.
pinch sealing apparatus, P (5) 112*d*.
salt crystal-to-glass, P (4) 94*g*.
silica, in tubes with many lead-in wires, (7) 163*j*.
of tubular glass neck portion to glass wall, P (6) 136*j*.
for wall tile, P (8) 194*d*.
Sedimentation, apparatus, modified Werner, for estimating particle size, (7) 165*h*.
balance, modified Sven Odén, (6) 144*g*.
centrifugal, in granulometric analysis, (4) 96*j*.
centrifugal, in particle size analysis, (2) 42*j*.
generalized theory, (9) 220*c*.
rate, of powdered materials in liquids, (5) 127*d*.
scales, for automatic investigation of particle size, (11) 266*j*.
of suspensions, IV, (1) 21*i*; V, (9) 221*c*.
volume, of alumina suspensions, effect of aging, (2) 48*c*.
Sediments, density distribution in, (7) 171*e*.
Recent marine, clay mineral composition, (7) 170*e*.
Selenides, stannous, crystal structure, (6) 142*b*.
of Ti, Zr, Hf, and Th, I, IV, (7) 180*g*.
Selenium, in glass, polarographic determination, (3) 57*e*.
in ruby glass, polarographic estimation, (4) 85*b*.
systems. See *Systems.*
Semiconductors, B (5) 130*b*.
abstracts, B (6) 152*b*.
devices, P (4) 94*h*.
and methods, P (2) 41*a*.
silicon, making ohmic connections to, P (8) 195*h*.
of SiC, P (5) 118*b*; P (9) 214*a*.
electrical properties of, B (1) 25*b*.
electric resistivities at high pressures, (7) 172*h*.
etching of, P (7) 164*c*.
as gap bridging material, P (10) 238*c*.
glasses, in systems $BaO–V_2O_5–P_2O_5$ and $Na_2O–BaO–V_2O_5–P_2O_5$, (5) 116*g*.
jet-electrolytic treatment process, P (9) 214*f*.
junction devices, treatment of, P (2) 41*a*.
of lithiated nickel oxide, P (4) 98*c*.
low-melting glasses for hermetic sealing of, (6) 134*j*.
material, method of cutting, P (4) 94*c*.
model, for excitation of candoluminescence in crystalline phosphors, (9) 214*i*.
mount for, P (8) 195*g*.
new refractory composition as, (11) 259*e*.
optical properties of, B (3) 80*a*.
photoconductive, of CdS, P (9) 215*d*.
properties, of LiV_2O_4-MgV_2O_4, (7) 163*d*.
signal-translating devices, P (8) 195*f*.
silicon, small crystals, P (9) 214*g*.
surfaces, improvement by low melting glasses, possible mechanism, (7) 163*c*.
thin layers, vaporization method for producing, P (10) 239*a*.
welding of point contact electrode to, P (7) 164*c*.
Semicovalent exchange. See *Valency.*
Separation. See also *Beneficiation; Classification; Flotation.*
automatic, of ores, P (7) 167*f*.
centrifugal, P (5) 121*h*.
of dust from hot gas, P (7) 166*e*.
electromagnetic, for purification of Russian rocks, (6) 145*h*.
of fine material, by particle size, P (5) 121*b*.
flotation, of lightweight aggregate, P (8) 198*g*.
fluid, of solid particles of different densities and particle size, P (11) 269*i*.
by gas chromatography, (1) 19*j*.
of granular materials of different densities, by means of liquid, P (1) 17*f*.
of granular materials in liquids, P (10) 239*h*.
of inorganic mixtures by partition, XI, (9) 220*h*.
of Fe and titania from ores and concentrates, P (3) 72*f*.
of magnetically susceptible materials from stream of mixed materials, P (2) 41*g*.
of nonmagnetic particles of different size and specific gravity, P (8) 199*d*.
of particles, according to size, P (5) 122*e*.
in fluid dispersion, P (7) 167*j*.
from highly viscous fluids, P (5) 122*e*.
by magnetized fluid, P (2) 42*b*.
of phosphate, silicate, and arsenate in solution, (2) 47*c*.
of rare earths and Th from multiple oxide minerals, (9) 220*i*.
of solids, of different specific gravities, sink-and-float method, P (5) 122*d*.
fine sized, by flotation, P (11) 269*i*.
in liquids, P (2) 45*c*.
and liquid from slurry, continuous rotary pressure filter for, P (4) 95*b*.
from suspensions of solids in fluids, P (4) 95*j*.
system, air-solids, for blast room, P (9) 205*g*.
of Th from rare earths, ion-exchange method, (9) 220*e*.
of Th from rare earths, salicylate process, P (1) 22*a*.
of usable particles from collecting liquid, P (4) 95*j*.
of Zr from Hf by solvent extraction with alkyl phosphate, P (6) 149*d*.

Separators, air, in pneumatic elevating systems, P (9) 216*a*.
air seal for, P (4) 95*i*.
ash, for powdered coal burning pressurized combustion system, P (4) 97*i*.
centrifugal, effect of differences between cyclones and multicyclones, (1) 264*h*.
cyclone, P (3) 68*a*; P (8) 196*f*.
for dust in air, P (3) 68*b*.
heavy media, P (1) 18*f*.
magnetic, P (2) 42*c*; P (4) 95*g*.
for ceramic industry, (3) 67*h*.
for coupling into fluid pipe system, P (11) 266*a*.
ore, P (10) 241*h*.
permanent, adjustable rotating drum, P (11) 265*d*.
wet, P (4) 96*d*.
for particles of low and high specific gravity, P (5) 118*d*.
plural circuit, in rotary drum grinder, P (8) 199*g*.
sand, construction, P (10) 241*e*.
for slurry, structure of, P (2) 46*a*.
for solids, centrifugal method, P (5) 118*f*.
for storage batteries, P (4) 91*g*.
suction-pressure unloading system, P (11) 266*c*.
Sepiolite, X-ray and electron diffraction data for, (6) 159*e*.
X-ray study of structure, B (9) 223*d*.
Sericite, alteration by sulfide solutions, B (9) 223*g*.
bodies, dielectric loss and insulation resistance, (4) 92*c*.
Serpentine, characterization of, (3) 73*h*.
dolomite-, mixes, physicochemical processes during firing, (6) 139*a*.
Mg-Al, synthetic, X-ray study, (3) 79*d*.
of southern Banat, possibilities of exploitation, (6) 146*e*.
Set, of cement, commercial, effect of gypsum, (7) 154*h*.
of cement, mixing aluminous and rapid-hardening to accelerate, (3) 52*j*.
and plaster of Paris, study with vibrating viscometer, (2) 29*f*.
study of by infrared spectrography, (3) 68*e*.
false, aeration as cause of in Portland cement, (9) 204*a*.
of plaster of Paris, relation to solubility, (5) 107*i*.
of Portland cement mortars, size change during, (8) 185*j*.
of Portland cement and plaster of Paris, effect of Cu, Pb, and Zn compounds and sugar, (2) 28*g*.
Settling. See also *Sedimentation*.
of luminescent screens, P (6) 143*e*.
velocity, of solid grains in coarser dispersions, (11) 271*d*.
Sewer pipe. See *Pipe*.
Shales, evaluation for clay products, (7) 167*c*.
for lightweight aggregates, (11) 257*f*.
Ohio, development of lightweight aggregate from, (10) 231*f*.
oil, Portland cement from, P (2) 29*e*.
partially altered to pyrophyllite, B (9) 223*h*.
sericite, ("white earth") as ceramic raw material, (11) 268*a*.
Shatter test, as control of molding properties of clay-bonded sand, (1) 8*a*.
Shears, for severing mold charges of plastic glass, P (6) 137*b*.
Shielding materials, laminous, ray-blocking, P (7) 164*h*.
Shipment. See *Transportation*.
Shipping, damage, reduction by improved packaging, (10) 246*e*.
Shock, -resistant, ceramics, in engineering, (8) 193*f*.
thermal, behavior of brittle materials, (11) 271*h*.
thermal, theory, observations and reservations, (11) 271*j*.
Shock resistance, thermal, ceramic body having, P (7) 162*f*.
of enamels, effect of mill additions, (8) 187*e*.
of glass, determination of, (7) 156*e*.
increasing in dense technical ceramics, (7) 181*b*.
measurement at high temperature, B (6) 152*d*.
of porcelain bodies, (2) 38*f*.
of refractories, study of theories, (3) 61*g*.
of silicon nitride, (10) 234*b*.
Shot blasting. See *Blasting*.
Shrinkage, differential, of clays and bodies, from particle orientation, (7) 171*j*.
drying, of Portland cement paste, effect of powdered minerals and fine aggregate, (3) 53*i*.
drying, of structural clay products, (9) 210*c*.
firing, characteristics of brick clays, (9) 210*e*.
Sieves. See *Screens and sieves*.
Silaneal, for increasing brick sales, (11) 257*g*.
for treating brick as it leaves kiln, (10) 231*h*.
treatment, effect on strength of walls made from brick of different absorptions, (11) 257*j*.
Silica. See also *Catalysts; Cristobalite; Glass; Quartz; Quartzite; Refractories; Sand; Tridymite*.
in abrasive detergent composition, P (11) 249*h*.
acid precipitated finely divided, purification, P (11) 269*b*.
-alumina, composition, P (10) 242*f*.
pigment, P (6) 146*e*.
pigments, finely divided, P (11) 269*a*.
pigment, white, P (10) 242*h*.
amorphous, crystallization of, (3) 77*h*.
formation of, (6) 148*a*.
hydroxyl groups on surface of, (5) 125*g*.
as oxidation product of SiC, (1) 20*a*.
braided cord, as insulation for coaxial cables, (4) 92*e*.
catalysts. See *Catalysts*.
colloidal, light scattering of, (8) 201*a*.
concentrate, concentration of heavy minerals, P (11) 269*h*.
Silica (*continued*)
as contaminant in glazes, (1) 11*h*.
content, of Al_2O_3-containing bauxites, reduction of, P (10) 242*d*.
content, of Al_2O_3-containing clays, reduction of, P (10) 242*b*.
crystal forms, stability of, (6) 148*h*.
crystallization, on polished glass surfaces, (7) 156*d*.
determination, alternative method, (2) 42*j*.
determination in aluminosilicates, by gravimetric analysis, (1) 20*a*.
finely divided, production, P (4) 100*b*.
flour, effect on properties of sand test specimens, (5) 113*j*.
fused, II, (9) 220*b*; III, (3) 70*h*.
adsorption on surfaces of known geometric area, (8) 199*h*.
annealing of density changes from radiation, (2) 47*b*.
clear, thermal conductivity at high temperatures, (9) 221*b*.
effect of O_2 on bonding of gold to, (4) 100*i*.
electric properties of, (2) 31*g*.
Fourier analysis of X-ray scattering curves, (9) 221*j*.
high purity, new shapes and sizes, (8) 191*h*.
hot pressing of, (11) 270*i*.
infrared study of water absorption in, (2) 31*d*.
photoelastic constants and elastic coefficient of refractive index, (9) 220*a*.
production, P (4) 100*f*.
pure, spin-lattice relaxation time of ^{29}Si nucleus in, (10) 245*e*.
Si—O—Si angle and structure of, (4) 101*i*.
stress release in, (2) 31*a*.
synthesized impurity centers in, (9) 208*j*.
total neutron scattering in, (4) 85*g*.
gels, and aerogels, preparation, P (7) 168*f*.
changes in surface structure after tempering at higher temperatures, (5) 123*b*.
crystallinity revealed in heat capacity curve, (5) 124*a*.
relation of surface area and pore structure to pretreatment, (5) 128*j*.
selective adsorption of vapors on, (5) 127*a*.
thermally aged, surface activity of, (5) 128*i*.
glass and ware, nature and properties, patent review, (9) 218*b*.
hydrated, from leached gillespite, (4) 102*d*.
as insulating and refractory material, (2) 44*j*.
irradiated, trapped electrons in, I, II, (9) 208*d*.
-lithia-alumina compositions, thermal expansion of, (2) 48*g*.
material properties, B (1) 23*f*.
microanalytical methods for determination, (7) 175*a*.
microstructure, in presence of iron oxide, (4) 88*i*.
mixtures, quantitative X-ray analysis, (8) 191*h*.
modifications, occurrence, and technology, B (8) 202*i*.
molten, viscosity of, (7) 181*c*.
nature and behavior in molten slag, (7) 170*b*.
neutron-disordered, structure of, (4) 102*e*.
new crystalline, (3) 76*d*.
organosols, P (6) 147*b*.
pebble conglomerates, in making brick, (11) 258*g*.
phase composition, dependence on composition of mineralizers and grading of bodies, (9) 210*i*.
phases, new and old, (7) 175*i*.
pigment, preparation, P (7) 167*a*; P (10) 241*g*.
powders, solubility and heat of wetting, (7) 178*f*.
precipitation method, P (6) 147*c*.
ratio to Al_2O_3, effects on viscosity and coloring of copper-red glazes, (9) 212*i*.
reaction with CaC_2 in melts to 2900°C., (5) 127*f*.
reactions, importance of, (2) 38*d*.
in refractory materials, colorimetric determination, (2) 36*d*.
resources, distribution in eastern United States, (7) 166*j*.
search for new deposits in Alberta, (6) 149*j*.
-silicone aerogels, P (11) 269*j*.
sols, aqueous, concentrating of, P (8) 199*f*.
preparation, P (10) 242*a*.
production from sodium silicate, P (9) 216*c*.
soluble, differentiation and quantitative determination of fractions of, (7) 172*f*.
spectrophotometric determination in presence of F and P, (7) 179*g*.
structure, studies of, VI, (11) 271*e*.
surface area, and krypton adsorption, (8) 200*i*.
systems. See *Systems*.
in vitreous refractory, P (11) 261*f*.
water-soluble, fluorescent dye-coated hydrophobic, P (9) 218*h*.
Silicates, alkali metal, as binder for foundry sand molds, P (3) 62*d*.
for improving adherence of luminescent screen, P (3) 59*c*.
testing of, P (4) 99*g*.
alkaline earth metal, densifying and pelletizing, P (8) 198*h*.
alkaline earth metal, production, P (3) 72*a*.
amorphous, polymerization in aqueous system, P (5) 121*f*.
analysis, methods, B (2) 49*j*.
analytical chemistry of, recent advances, (3) 68*d*.
chemistry, introduction to, B (1) 24*j*.
of clinker, X-ray study, (3) 55*a*.
colloidal, I–III, (5) 123*e*.
containing Al, infrared absorption spectra, (10) 244*a*.
content, of periclase, (8) 192*e*.
determination of alkalis in by flame photometry, (5) 124*c*.
fibers, molten, method of blowing, (11) 264*i*.
iron in, spectrophotocolorimetric test for, (5) 127*i*.
isomorphism of boron in, (9) 220*f*.
layers, of halloysite, oriented penetration of ionic compounds between, (3) 76*h*.
Silicates (*continued*)
liquid, structure of, II, (8) 201*h*.
Li Al, as ceramic raw materials, (6) 145*j*.
metal, finely divided, products from, P (11) 262*c*.
molten, variation of heat applied in relation to flow characteristics, P (2) 34*j*.
1:1 layer lattice, morphology and crystal chemistry of, (3) 76*h*.
K-Pb, synthesis and properties, (3) 78*b*.
K and Na content, quantitative spectrochemical determination, (2) 29*b*.
rapid chemical analysis, (7) 177*i*.
raw materials and bodies, complete spectrometric analysis, (9) 216*g*.
rocks, precipitation of Mn in analysis of, (9) 220*f*.
separation from phosphate and arsenate in solution, (2) 47*c*.
soluble, purification, P (10) 241*g*.
spectrochemical analysis, (5) 127*g*; (11) 272*b*.
structures, progress in, B (9) 223*b*.
sub-, alkali, process of making, P (10) 242*i*.
suspensions, viscosimetric studies, (5) 129*f*.
synthetic organic, study and use, (8) 198*c*.
Ti and Fe in, simultaneous estimation by polarography, (7) 178*j*.
with tubular primary crystals, adsorption and specific surface of, (5) 123*c*.
Siliceous materials, as coating for glass pots, (3) 61*c*.
diffusion of Fe_2O_3 in, evaluation by use of ^{59}Fe, (5) 127*c*.
in polymerization catalyst, P (1) 17*i*.
Silicides, high-melting, crystallochemical studies, (11) 270*d*.
metal, preparation, P (9) 212*d*.
Silicon, in alloy for abrasive article, P (9) 203*e*.
atoms, location in muscovite structure, (7) 179*d*.
behavior in steel melted in Al_2O_3-SiO_2 crucibles in vacuum, (10) 233*d*.
boride, SiB_3, (6) 146*c*.
carbide. See also *Refractories*.
in aircraft brake material, P (1) 9*i*.
bodies, production, P (3) 62*h*.
effect of oxygen partial pressure on oxidation of, (5) 113*d*.
fused junctions in, P (9) 214*a*.
green, process for producing, P (5) 105*i*.
heating elements, application, I–IV, (2) 44*a*.
heating elements, use to 2000°F., (4) 97*e*.
in kiln furniture, properties, (1) 8*b*.
method of making articles from, P (10) 235*f*.
for nuclear reactors, (10) 234*a*.
optical and electrical behavior, B (1) 25*b*.
oxidation, (1) 20*a*.
oxidation, effect of bonds of K_2O–Al_2O_3–SiO_2 system, (11) 258*i*.
for polishing glass, effect of particle size, (4) 81*f*.
powders, oxidation of, II, (5) 113*e*; III, (10) 234*j*.
production, P (3) 62*j*.
radiation damage in, (2) 47*h*.
rectifiers, P (8) 195*a*; P (9) 215*e*.
in refractory article, P (10) 235*f*.
in resistor body, P (10) 238*j*.
semiconductor devices, P (5) 118*b*.
sintered, effect of clay binders on oxidation of, (11) 258*j*.
systems. See *Systems*.
thermistor bodies, P (4) 90*b*.
thermodynamic study using mass spectrometer, (9) 221*g*.
determination, in cement, using Norelco Autrometer, (7) 171*h*.
diffusion of oxygen in, (10) 243*h*.
dioxide. See also *Silica*.
dioxide, finely divided, production, P (5) 122*c*.
monoxide, in image storage screens, P (1) 13*d*.
nitride, for high temperature engineering, (10) 234*b*.
nitride, properties of, (5) 128*f*.
-organic compounds, synthetic, study and use, (8) 198*e*.
phosphide, studies of, (5) 127*b*.
in refractory metal body, P (7) 161*h*.
in refractory Mo body, P (5) 108*h*.
semiconductive, in translators, P (9) 214*e*.
semiconductor element, making ohmic connections to, P (8) 195*h*.
^{29}Si nucleus, spin-lattice relaxation time in pure fused silica, (10) 245*e*.
single crystals, high purity, production under high vacuum, (11) 271*d*.
spectrographic determination in tungstic oxide, (3) 77*j*.
systems. See *Systems*.
tetraboride, formation and structure, (11) 258*e*.
tetraboride, in new refractory material, (11) 259*e*.
tetrachloride, for making graphite body impervious to fluids, P (5) 114*h*.
Silicones, films, on glass, study by radioactive tracer, (6) 134*i*.
films, structure, properties, and application to glass, (5) 110*g*.
plant-applied, effect on wall strengths, (11) 257*j*.
plant-applied, for increasing sales of brick, (11) 257*g*.
pretreatment, effect on moisture penetration of brick masonry, (11) 257*j*.
silica-, aerogels, P (11) 269*j*.
for surface protection, (7) 157*e*.
Silicosis, research, basic questions from, (1) 22*b*.
Sillimanite, differentiation from mullite in very fine crystalline samples, (11) 270*g*.
Indian, in high temperature insulating brick, (10) 234*d*.
in U. S., bibliography of, (2) 44*g*.
X-ray, optical, and chemical data, (3) 73*e*.
Silt, refractory, Dakota formation, in Kansas, (8) 191*b*.

Silver, and CdO, composite powder from, P (1) 14*b*.
for coating glass filaments, P (2) 34*b*.
compositions, with vitrifiable inorganic ceramic binder, P (10) 236*i*.
on mirrors, electrical method for estimation, (5) 110*e*.
niobate, ferroelectric materials, P (11) 264*c*.
in vaporization coating process, P (3) 59*h*.
Silvering. See *Glass*.
Single crystals. See *Crystals*.
Sintering, of "active" oxide powders, effect of heat treatment, (8) 200*j*.
apparatus, P (1) 16*i*.
automatic recording apparatus for expansion and contraction during, (2) 36*j*.
bed, pellets, producing, P (8) 196*h*.
of corundum, (7) 178*c*.
electric resistance as measure of degree of, (5) 116*d*.
of ferrite magnet, effect of solid state reactions, (7) 163*e*.
of ferrites, (5) 116*g*.
of glass, in filter making, (10) 229*f*.
machine, for clay block plants, (11) 257*e*.
machine, traveling grate feeding apparatus for, P (8) 197*g*.
of metal elements, P (7) 162*b*.
mix, automatic measurement and control of moisture in, P (8) 196*g*.
under molten glass, (10) 246*e*.
and nitriding of ferrous bodies, P (8) 192*j*.
in presence of liquid phase, densification during, I, II, (7) 171*c*.
process, of feldspar bonds for abrasive wheels, electrical conductivity of, (3) 51*j*.
of quartz crystal, (2) 47*f*.
self, of radioactive wastes, P (5) 129*e*.
of shaped cemented metal bodies, P (4) 90*a*.
temperature, of ceramic materials, effect of mechanical treatment, (5) 124*b*.
of TiC-base cermet, II, (7) 160*h*.
of UO_2 in range 1200° to 1300°C., (9) 211*h*.
Size reduction. See *Crushing and grinding*.
Slags, blast-furnace, in decreasing air permeability of concrete, (2) 28*d*.
freezing and thawing resistance of cement containing, (2) 28*f*.
granulated, hydraulic properties, IV–VI, (5) 106*e*.
CaO-Al_2O_3-MnO-SiO_2, equilibrium measurements with C-saturated Mn-Fe-Si melts, (7) 172*i*.
ferruginous, effect on behavior of refractory brick, (11) 258*c*.
fineness, effect on absorption of cement mortar, (7) 154*d*.
formation, on refractory surfaces, method for combatting, P (11) 260*g*.
fused, e.m.f. study of properties of components, (2) 36*b*.
in lightweight concrete, (3) 54*b*.
liquid, in Na_2O–MnO–SiO_2 system, (1) 21*e*.
molten, construction and behavior of constituents, (7) 170*b*.
containing TiO_2, electrical conductivity of, (5) 113*e*.
of porous brick, equation for absorption coefficient, (6) 138*d*.
use of electrolytic dissociation in determining basicity, (2) 35*h*.
oxide orthosilicate, (7) 180*h*.
refractory-, contraction tests of reactions, (6) 139*i*.
refractory insulation from, (2) 36*f*.
resistance of refractory brick, (11) 258*e*.
silicate, foaming of, (3) 60*j*.
silicate, liquid, constitution of, (1) 9*f*.
on solid surfaces, contact angle measurements, (2) 35*d*.
S determination in by microanalysis, (9) 220*i*.
synthetic, relation between chemical composition and strength, (5) 105*f*.
TiO_2-Al_2O_3, for producing refractories, (6) 140*h*.
welding, viscosity and electrical conductivity, (5) 113*g*.
wool. See *Mineral wool*.
Slaking. See also *Lime, hydration of*.
micro-, in determining yield of quicklime, (3) 53*b*.
Slime, foundry sand, dewatering of, P (10) 241*d*.
Slip casting, aqueous, of magnesia, (3) 61*j*.
of bone china, modern techniques, (11) 250*c*.
of CaF_2 crucibles, with HCl, (3) 61*b*.
of heavy slip, P (11) 266*b*.
improvements, in control of pottery bodies, (3) 63*b*.
method, P (2) 37*f*.
process, for refractory material, P (10) 235*h*.
rate, device for measuring, (10) 236*e*.
of refractory oxides, powdered metals, and cermets, (4) 88*h*.
unique system, for decorated earthenware, (3) 52*c*.
Slips. See also *Suspensions*.
antique decorating, characteristics and firing behavior, (8) 185*g*.
casting, control, through measurements of rate of filtration, (10) 236*i*.
preparation and control, (8) 185*i*.
rheology of, (11) 271*a*.
earthenware, effect of bentonite on properties and casting rate, (2) 39*a*.
organic compounds for stabilizing, (3) 71*a*.
Sludge, filtration, at waterworks, for making refractory brick, (4) 88*f*.
Slurry, apparatus for molding blocks from, P (2) 42*a*.
dehydration, for manufacture of refractory crucibles with gypsum plaster molds, (10) 232*h*.
feeding and measuring apparatus, P (4) 96*a*.
Slurry (*continued*)
foamed, cementitious, generator for, P (4) 83*e*.
loader, for centrifugal machines, P (5) 122*h*.
particles, increasing dispersibility, P (5) 129*d*.
separating apparatus, P (2) 46*a*.
UO_2-Bi, preparation, P (9) 222*c*.
Smelters, continuous, method and apparatus for discharging, P (5) 108*j*.
Smelting. See *Metallurgy*.
Smoke, -stacks, enameled, advantages of, (10) 226*h*.
Soapstone, (6) 146*b*. See also *Steatite; Talc*.
Soda. See *Sodium, carbonate*.
Sodalite, synthetic, manufacture, P (4) 99*h*.
Sodium. See also *Alkalis*.
absorption by glass, (1) 4*d*.
aluminate, production from contaminated alumina, P (7) 167*e*.
carbonate, solution, effect on polished surface of flint glasses, (10) 229*f*.
chloride, in concrete, effect on corrosion of reinforcing steel in marine atmospheres, (9) 204*b*.
factors affecting transition temperature, (7) 169*j*.
systems. See *Systems*.
compounds, in red mud, (2) 44*i*.
content, in vitreous silica, relation to conductivity, (2) 31*g*.
feldspars, high-temperature, cooling history of, (7) 168*j*.
fluoride, systems. See *Systems*.
hydride, synthesis of, (3) 70*h*.
indate, properties of, (5) 126*i*.
in kaolin, quantitative flame-spectrometric determination, (6) 148*f*.
niobate, solid solution dielectrics based on, (8) 194*h*.
oxide, effect on tridymite formation, (1) 19*j*.
flame photometric determination in glasses, (2) 31*a*.
systems. See *Systems*.
polyborate, as additive in glass melt, P (8) 189*b*.
separation from silicate rocks by ion exchange resin, (3) 78*j*.
silicate, and aluminosilicates, reaction with aqueous solutions, I, (7) 178*e*.
and Be chloride, metathesis studies, (5) 128*f*.
elevating and measuring method, (11) 264*h*.
as impregnant for castings, (4) 83*g*.
metathesis with chlorides of Fe and Cr, gelation studies on products of, (5) 128*d*.
production of silica sol from, P (9) 216*c*.
products from, P (11) 262*c*.
systems. See *Systems*.
in silicates, quantitative spectrochemical determination, (2) 29*b*.
^{24}Na, in glass electrodes, effect on alkali error, (9) 208*h*.
^{24}Na, in investigations on glass electrodes, (11) 254*e*.
sulfide, in glass, effect of temperature and O, (7) 156*c*.
tetraphenylboron, 1958, bibliography, (1) 17*d*.
vapor, as origin of surface cracks of sheet glass, (5) 111*a*.
Soils, additive, for fertilizing and conditioning, P (6) 134*b*.
apparatus for measuring diffusion coefficients in place, P (4) 96*j*.
ASTM Standards, B (2) 49*d*.
Australian, exchange capacity for Sr ions, (7) 173*a*.
low permeability, device for measuring permeability, (6) 144*g*.
moisture content, device for measuring and regulating, P (3) 68*j*.
stabilized ferruginous, determination of cement or lime content, (8) 186*b*.
sub-, resources of Haute-Ariège, (4) 98*h*.
thermal conductivity, measurement by cylindrical probe method, II, (7) 170*f*.
Solar furnaces. See *Furnaces*.
Soldering. See also *Seals and sealing*.
joining of metals by, for electron tubes, B (7) 183*c*.
of nonsolderable articles, P (4) 94*g*.
Solid phase, distribution in system CaO–MgO–SiO_2–Cr_2O_3, (9) 219*c*.
Solids, acid-base relation, new concept, (11) 253*b*.
air-, separation system for blast room, P (9) 205*g*.
analysis, spectrochemical and structural, by X rays, P (3) 79*g*.
brittle, theoretical strength of as affected by polarization of constituent ions, (7) 180*j*.
compounds, radiochemical studies on, I, II, (7) 177*e*.
dielectric determination of water in, (9) 219*a*.
dust-forming, filling and compacting apparatus, P (2) 41*j*.
emulsification and wetting of, (5) 125*b*.
finely divided, apparatus for compressing, P (2) 41*h*.
formation of, characterization of structures by energy profiles, (6) 148*a*.
fracture in, as result from microscopic cracks, (9) 220*b*.
highly dispersed, preparation, (9) 215*h*.
ionic, deformation and creep in, (6) 148*g*.
in liquid, device for subdividing, P (2) 45*c*.
particles, nonsegregating system for handling and feeding, P (2) 42*b*.
particulate, of different densities and particle sizes, fluid separation, P (11) 269*i*.
reactivity of, effect of mechanical treatment, (5) 124*b*.
reactivity of, proceedings of international conference, 1956, Vol. II, Sections II, III, B (10) 248*g*.
semi-infinite, heat-transfer charts for time-variable conditions in, (3) 75*f*.
Solids (*continued*)
separation by centrifugal method, P (5) 118*f*.
separation from suspension in fluids, P (4) 95*j*.
sorting apparatus, P (11) 269*h*.
study of infrared spectra of, (7) 173*i*.
translucent, low temperature, directional, spectral emissivity of, (11) 266*f*.
transport mechanism in, B (11) 274*d*.
Solid solutions. See *Solutions, solid*.
Solid state, changes in surface area of powdered materials during reactions in, (5) 123*a*.
diffusion, symposium on, B (4) 104*f*.
image intensifier, P (9) 209*h*.
magnetic and dielectric devices, B (5) 130*h*.
reactions, effect of potential energies of surfaces and defects on kinetics of, (6) 148*a*.
effect on sintering of ferrite magnet, (7) 163*e*.
in high-temperature alloys, Natl. Bur. Standards research on, (5) 129*i*.
in study of system ZnO–TiO_2, (4) 101*j*.
reactivity in, (1) 21*d*.
silica phases in, (7) 175*i*.
theory, elements of, B (5) 129*j*.
Sols. See *Colloids*.
Solubility, of lead glazes, IV, V, (1) 11*g*.
of lead glazes, chemical factors affecting determinations, (1) 11*h*.
measurements, in plaster of Paris evaluation, (5) 106*e*.
of plaster of Paris, relation to setting, (5) 107*j*.
of silica powders, (7) 178*f*.
and solution equilibria, of silicic acid, (5) 127*e*.
Solutions, absorption bands of Cr^{3+} ions in, (6) 134*d*.
techniques, in fluorescent X-ray spectrography, (7) 178*h*.
Solutions, solid. See also *Equilibrium studies*.
importance of systems BaO–SnO_2 and BaO–PbO_2 in, (7) 174*g*.
from Fe_3O_4 to $0.4Fe_2O_4$·$0.6CoFe_2O_4$, dissociation pressures of, (10) 243*j*.
$FeTiO_3$–Fe_2O_3 series, electric properties, (6) 142*e*.
NiO–Li_2O formation, time dependence of, (3) 78*h*.
silicate garnet–yttrium-iron garnet, (7) 178*h*.
in system iron oxide–Cr_2O_3, (5) 126*f*.
in system MgO–FeO–Fe_2O_3, (11) 271*a*.
in system MgO–MnO–SiO_2, (4) 102*c*.
of TiO_2, Fe_2O_3, and Cr_2O_3 in mullite, X-ray study of, (6) 149*f*.
of transition elements, superexchange interactions and magnetic lattices of, (2) 48*h*.
of UO_2–ThO_2, oxidation studies, (11) 259*a*.
zirconia, with CaO and MgO, $\gamma \rightarrow \alpha$ transition in, (7) 173*j*.
Sonics, apparatus, for measuring level of stored materials, P (10) 242*i*.
for spalling test, (11) 272*b*.
in thickness measuring apparatus, P (6) 144*j*.
ultra-, in cleaning, equipment and solutions, (5) 108*f*.
in cleaning apparatus, P (10) 239*j*.
developments in pottery industry, (3) 63*f*.
for lens generators, P (10) 231*c*.
in measuring polarization of ferroelectrics, (9) 214*f*.
in measuring pores of large dimension, (10) 234*c*.
Soot, surfaces, adsorption and catalytic activity, (1) 20*d*.
Sorption. See also *Absorption; Adsorption*.
of benzene and water by "phenyl" montmorillonite, (7) 179*c*.
interlamellar, of mixed liquids by montmorillonite, (5) 125*h*.
phosphate, by Fe and Al oxides, (7) 176*i*.
water, of clay minerals, (3) 79*c*.
water, of homoionic clay minerals, (3) 79*e*.
of water vapor on calcium oxide, (8) 201*e*.
Spalling. See *Refractories*.
Spark plug insulators, composition, (11) 261*j*.
with SnO_2, P (5) 116*a*.
Spark plugs, cement for, P (4) 91*a*.
forming process, P (2) 39*b*.
low tension, P (4) 94*d*; P (10) 230*f*.
sliding spark ignition, P (7) 162*i*.
Specific gravity. See *Density*.
Specific heat. See *Heat, capacity*.
Specific surface. See *Surface*.
Spectra, absorption, of Ba vapor, (7) 181*h*.
of crystalline phosphors, determination by means of diffuse reflection spectra, (9) 213*i*.
of fused silica, effect of Li and Al, (9) 208*j*.
of rubies at low temperatures, (10) 243*b*.
of V-colored corundum at low temperatures, (10) 243*b*.
band, of Mg oxide and hydroxide between 4000 and 3600 a.u., (9) 218*j*.
infrared, relation to chemical analysis for chlorites, (4) 101*f*.
infrared, vibrational, of vitreous B_2O_3·xH_2O, (7) 157*f*.
infrared absorption, of α-quartz between 4 and 15μ, (1) 20*c*.
on $BaTiO_3$ and related materials, (10) 244*c*.
in differentiation of H_2O and OH groups in glasses, (10) 227*i*.
of hydrargillite, (10) 244*b*.
and reflection, of porcelain glasses, (2) 31*i*.
of silicates containing Al and crystalline aluminates, (10) 244*a*.
paramagnetic resonance, of impure MgO crystals, weak lines in, (9) 221*a*.
Spectrochemical analysis. See *Analysis*.
Spectrographs, in analysis of soda-lime glass, (1) 4*g*.
concave grating, P (11) 273*c*.
electrodynamic, P (9) 222*a*.
pendulum type, P (8) 197*a*.
X-ray, automatic, Autrometer, (7) 165*f*.
X-ray, universal detector for, (7) 165*g*.

Spectrography, of Al, Fe, K, and Si in tungstic oxide, (3) 77*f*.
in analysis of ceramic materials, (7) 179*g*.
in analysis of minor constituents in refractories, (4) 88*i*.
fluorescent X-ray, solution techniques in, (7) 178*h*.
infrared, in determination of mineral content of raw materials and of brick and cement, (3) 68*e*.
of rare-earth elements, (3) 77*f*.
X-ray, in determination of Ta, Nb, Fe, and Ti oxide mixtures, (3) 79*f*.
emission, in analysis of high-purity rare earths, (7) 181*e*.
practical aspects, (7) 179*a*.
Spectrometers, double beam, P (9) 222*d*.
mass, in thermodynamic study of SiC, (9) 221*g*.
means for shifting spectral radiations relative to focal plane, P (10) 246*d*.
molecular mass, P (9) 216*j*.
multichannel photoelectric, for pellet-spark technique of spectrochemical analysis, (7) 179*e*.
specimen holder, P (10) 246*l*.
Spectrometry, absorption, apparatus, P (10) 246*a*.
flame, in determination of alkali in corundum, (2) 42*g*.
flame, in quantitative determination of K, Na, Ca, and Al in kaolin, (6) 148*f*.
Spectrophotometers. See also *Photometers*.
double-beam, for measuring effects of high temperature on infrared transmittance of glasses, (3) 56*g*.
flame, automatic liquid feeding system, P (11) 273*b*.
in measurement of color of near-white samples, (4) 83*i*.
Raman, P (10) 246*b*.
Spectrophotometry. See also *Photometry*.
in analysis of clays, (9) 216*g*.
for determining, Mg, Ca, Sr, Ba, Cd, and Zn with EDTA, (2) 47*e*.
microgram quantities of Mo in UO_3, (4) 101*j*.
SiO_2 in presence of F and P, (7) 179*g*
Th, in dilute solutions, (7) 179*i*.
Zr, (5) 127*k*.
flame, in determination of Al, (3) 74*c*.
in study of glasses containing Mn, (5) 110*j*.
in study of irradiated alkali-alkaline earth-silica glasses, (3) 56*d*.
system, P (11) 273*d*.
ultraviolet, in determination of Th, (3) 78*i*.
Spectroscopy, infrared, in study of α- and β-spodumene, (7) 179*j*.
X-ray emission, test of accuracy in quantitative determination of chemical composition, (6) 147*e*.
Spessartite, andradite-, garnet, from Sweden, (3) 72*j*.
synthetic, substitution of Fe^{3+} for Al^{3+} in, (6) 148*j*.
Sphalerite, DTA of, (3) 74*e*.
Spinel. See also *Refractories*.
Cr-containing, origin of low moments in, (7) 176*i*.
ferro-, cation distribution in, (4) 100*h*; (7) 169*c*.
compositions, P (7) 164*g*.
valence and distribution of Mn ions in, (9) 214*j*.
Mg-Al, Al_2O_3-supersaturated, unmixing in, (10) 245*g*.
magnesium chromite, effect of formation on catalytic activity and electrical conductivity, (5) 123*j*.
Mn-Sn substituted, magnetic properties, (1) 12*g*.
new system, LiV_2O_4–MgV_2O_4, with valency semiconductor properties, (7) 163*d*.
phase relations of iron oxide containing, I–III, (7) 176*a*.
theory of ionic ordering, crystal distortion, and magnetic exchange due to covalent forces in, (3) 78*b*.
transition metal, model for cubic-to-tetragonal phase transformations in, (4) 102*f*.
vanadium, preparation and properties, (6) 148*c*.
Spodumene, α- and β-, infrared spectroscopy study, (7) 179*j*.
beta, production of Li sulfate from, P (6) 140*g*.
Spraying, apparatus, for coating the interior of hollow articles, P (7) 165*c*.
equipment, memory units for, (6) 133*i*.
flame, of ceramic coatings, (9) 205*j*.
of ceramic materials, B (6) 151*h*.
jet, method and apparatus, P (5) 108*i*.
method and compositions, P (2) 30*g*.
process, P (10) 226*j*.
wheel, method of coating, P (10) 241*c*.
Stability, of crystal forms of silica, (6) 148*h*.
of montmorillonite suspensions, (5) 127*j*.
of uvarovite, (7) 179*j*.
Stabilization, of β-dicalcium silicate by elementary carbon, (6) 133*c*.
of crystalline Sn(II) hydroxide by silicic acid, (5) 128*a*.
Staining, methods, for identification of carbonate minerals, (7) 173*e*.
Stains, ceramic, effect of self-opacified titania glazes on, (8) 193*h*.
enamel, stabilization of, P (9) 205*i*.
Standards, ASTM, 1958, for cement, concrete, mortars, road materials, waterproofing, soils, masonry products, ceramics, thermal insulation, acoustical materials, sandwich and building constructions, fire tests, B (2) 49*d*.
British, for determination of silica, bulk density, and warpage, (2) 42*j*.
British, for test sieves for abrasive materials, (1) 14*f*.
commercial CS115-44, for porcelain enameled hot-water tanks, revision, (2) 30*h*.
German, for brick, (8) 190*e*.
Standards (*continued*)
Indian, for high heat duty fire-clay refractories, (7) 160*j*.
for moderate heat duty fire-clay refractories, (6) 138*j*.
for silica refractories for general purposes, (6) 140*c*.
of reflectance of Ba sulfates, (7) 179*a*.
Stannic oxide. See *Tin, oxide*.
Statistical analysis. See *Analysis*.
Statistics, aspects of dust counting, (6) 149*i*.
ceramic, (4) 103*c*.
literature, bibliography from 1930 to 1937, I, II, (6) 149*h*.
in X-ray intensity measurements, (7) 179*c*.
Steam. See also *Moisture; Water*.
in curing concrete at atmospheric pressure, (5) 106*j*.
effect on oxidation of SiC, (5) 113*e*.
in forming and rapid drying, rational technique, (5) 118*g*.
injection into high-temperature zone of brick kiln, (7) 159*i*.
Steatite. See also *Soapstone; Talc*.
bodies, deterioration of, (4) 91*g*.
bodies, studies on deterioration phenomenon, II, (7) 179*h*.
in engineering, (8) 193*f*.
Steel. See also *Enameling metals; Iron*.
alloy, high-strength, ceramic tools for finishing, (3) 51*f*.
architectural enamel on, report of committee on specifications for, (5) 108*f*.
billets, glass coating of, P (4) 87*f*.
brick-lined for corrosive chemical operations, (7) 162*g*.
castings, inorganic bonded cores for, P (8) 192*f*.
-cement contacts, potential difference at, (3) 54*a*.
coil, high speed blanking and slitting for electrical appliances, (3) 55*e*.
cold-rolled and special premium, enameling of, (3) 55*e*.
contamination by refractories, study by isotopes, (6) 140*f*.
enameled, for curtain-wall construction, (5) 108*d*.
metallography techniques, (2) 30*i*.
for protection against corrosion in power plants, (9) 205*f*.
enameling, with intermediate layer of NiO, P (10) 227*d*.
erosion of refractories as contaminant in casting of, radioactive isotope study, (8) 191*j*.
heavy gauge, enameling problems, (1) 3*f*.
Inconel, and stainless, spectral emittance of ceramic-coated and uncoated, (1) 3*i*.
low carbon, coatings for protection at high temperatures, (8) 186*i*.
molten, reaction with refractories, III, (10) 233*b*.
one coat enamel producing metallic finish on, P (2) 30*h*.
particles, as component of refractory brick, P (8) 193*d*.
plant, castable refractories for equipment in, (5) 113*b*.
plant, quality parameters of superduty plastic refractories for, (9) 211*i*.
prevention of alligator scale formation, P (10) 227*c*.
reinforcing, in concrete, corrosion in marine atmosphere, (9) 204*b*.
reinforcing, formation of rust in, relation to neutralization of blended cement mortar, (11) 251*c*.
sheet, de- and re-enameling, (8) 186*j*.
sheet, low-temperature enamels for, (6) 133*j*.
shot, applications to enameling, (8) 186*j*.
sintered hard metal alloy for machining, P (7) 162*a*.
stainless, factors affecting adherence of ceramic coatings to, (2) 30*b*.
stainless, preoxidation by H for glass-to-metal sealing, P (8) 190*a*.
Steklofon, glass, with internal and external surfaces tempered to different degrees, (10) 229*a*.
Stevensite, and allied minerals, restudy of, (3) 77*b*.
Stones. See also *Gems; Rocks*.
breaking machines, P (6) 147*b*.
cast, forming from natural stone, P (9) 222*b*.
Chinese porcelain, petrographic characteristics, (9) 218*a*.
dressing and planing machines, P (5) 122*i*.
precious, mechanical piercing method, III, (5) 118*e*.
slabs, apparatus for splitting, P (4) 99*a*.
Stoneware, crystalline, glaze formula for, (9) 203*i*.
glazes, preparation of ash for, (7) 154*a*.
material properties, B (1) 23*f*.
pre-Meissen red, Böttger's role in development, (3) 52*g*.
salt-glazed, oil heated chamber kiln for firing, (9) 217*b*.
white vitrified, dinnerware from, (4) 82*b*.
Storage, of coated abrasives, (6) 131*e*.
moisture redistribution in plastic clay during, (7) 175*j*.
Strains, gauges, for determining elastic constants of ceramic materials, (3) 68*f*.
as index of plasticity, (7) 176*j*.
internal, effect on texture and strength of porcelains, (6) 141*j*.
in introduction to rheology, B (11) 273*g*.
Strength, of building brick, comparison of methods of measuring, (1) 15*b*.
of ceramic materials, factors affecting, (7) 182*e*.
compressive, relation between total and local in cylindrical mortar specimens, (2) 29*d*.
dry cross-bending, of clays, (7) 169*f*.
flexural and compressive, of concrete, effect of coarse aggregates, (3) 53*h*.
Strength (*continued*)
green, as control of molding properties of clay-bonded sand, (1) 8*a*.
mechanical, of Brazilian clays, (5) 121*d*.
mechanical, importance of rate of loading on measurement, (11) 271*j*.
properties, measurement at high temperature, B (6) 152*d*.
tensile, of flat glass, indentation study, (3) 56*e*.
tensile, of pyrolytic graphite at 2750°C., (10) 241*d*.
theoretical, of brittle solids as affected by polarization of constituent ions, (7) 180*j*.
Stress, behavior, of brittle materials, (1) 21*g*.
calculation in nonuniformly quenched disk, (7) 157*c*.
in cemented glass tile, (2) 31*i*.
critical, for production of pressure crack figures on diamond faces, (9) 219*i*.
effect on formation of flaws in glass, (5) 110*a*.
histograms, fracture and endured, for flat glasses, (3) 56*e*.
induced in glass by quenching, calculation of, (3) 134*h*.
measurement, in plate glass, (5) 135*d*.
plastic yield, of single crystals of MgO, temperature dependence, (11) 272*c*.
-strain curves of MgO single crystals in compression, (8) 201*a*.
thermal, in solid UO_2 rods, (6) 140*c*.
thermal, transient, promoted by rapid heating and cooling of brittle circular cylinders, (11) 272*i*.
Strontium, ceramics and glasses, leaching, volatilization, and enamel-forming properties, (7) 157*e*.
determination by spectrophotometry, (2) 47*e*.
fluoride, systems. See *Systems*.
glasses and ceramics containing, resistance to leaching, (4) 85*g*.
ions, exchange capacity of Australian soils for, (7) 173*a*.
oxide, dissociation by impact of slow electrons, (9) 219*d*.
reactions with glass powder mixtures, (10) 229*j*.
systems. See *Systems*.
in perovskites, effect on magnetic properties, (3) 65*b*.
quantitative spectrochemical determination, (7) 177*i*.
silicates, studies of formation, (5) 123*f*.
silicates, systems. See *Systems*.
superoxide, synthesis of, (9) 221*f*.
titanate, in optics and electronics, (6) 142*g*.
Structural clay products. See also *Brick; Pipe; Structural materials; Tile*.
blocks, all-ceramic, market potential, (11) 273*f*.
clay bonded, containing small amount of vermiculite, (11) 257*d*.
clay bonded, new design data, (11) 257*f*.
commercial production, (11) 257*e*.
dry pressing of, (11) 257*g*.
Materialite, manufacture, (11) 257*e*.
organic binders for strength increase in, (11) 257*g*.
effect of moisture content and forming pressure on properties, (9) 210*c*.
firing of, I, II, (12) 257*h*.
lightweight molded, P (10) 231*i*.
material properties, B (1) 23*f*.
moisture expansion of, (1) 7*c*.
moisture expansion and movement, and drying shrinkage, (9) 210*c*.
permanent moisture expansion on natural exposure, (4) 88*b*.
process and compositions for improving, P (1) 7*h*.
Stahlton system for floor construction, I–VI, (2) 35*b*.
sulfate retention in, (5) 113*a*.
testing program for economic control of efflorescence, (11) 257*i*.
Structural clay products industry, provision for profit in, (1) 7*a*.
Structural loading, in factories, (7) 183*f*.
Structural materials. See *Aggregates; Brick; Building materials; Cement; Concrete; Enameled ware; Glass; Insulation, thermal; Masonry; Roofing materials; Structural clay products*.
apparatus for forming from glass fiber reinforced resin, P (10) 230*a*.
brick and blocks, fly ash in, I, II, (5) 107*f*.
composite unit, hydrous calcium silicate in, P (11) 251*e*.
Structure, of amorphous solids, characterization by energy profiles, (6) 148*a*.
atomic, effect on properties of materials, B (4) 104*b*.
of boron oxide-water glasses, (8) 188*d*.
effect on properties of phyllitic minerals, (5) 124*e*.
electronic, of graphite, (3) 64*h*.
of glasses, relation to infrared transmission measurements, (1) 5*a*.
grain, in powder metallurgy products, (7) 160*c*.
internal, of borosilicate glasses, study by electron microscopy, (1) 4*g*.
of lead chromate, orthorhombic modification, (7) 179*e*.
of liquid silicates, II, (8) 201*h*.
magnetic, of wüstite, nature of defects, (1) 12*j*.
micro-, of baddeleyite-corundum electrofused refractory before and after use in glass furnace, (6) 138*g*.
of magnesite refractories, factors affecting, (1) 8*d*.
of Ni-TiC-base cermets, effect of solid state solution-precipitation process, (9) 211*f*.
of porcelain bodies, X–XI, (7) 175*c*.
of silica in presence of iron oxide, (4) 88*i*.
of muscovite, (7) 179*d*.
textural, in ceramic bodies, (6) 141*i*.

Structure (*continued*)
of vitreous boron oxide, (7) 179*f*.
Sublimation, of Cr_2O_3 at high temperatures, (11) 272*f*.
of Li from Li-Ni ferrite, (11) 263*g*.
Sugar, effect on setting of Portland cement and plaster of Paris, (2) 28*g*.
Sulfates, attack on concrete in Oslo region, (9) 204*c*.
determination of low concentrations in water, (7) 176*c*.
resistance, of concretes containing pozzolan, factors affecting, (11) 251*c*.
retention by fired clay products, (4) 113*a*.
Sulfides, in glass coloration, (5) 109*h*.
semiconducting properties of, B (5) 130*b*.
of Ti, Zr, Hf, and Th, I, IV, (7) 180*g*.
Sulfur, as aid to dehydrogenation in production of C refractories, (4) 88*f*.
dioxide, mechanism of absorption by quicklime, (7) 154*e*.
in dust injection kiln, (3) 52*h*.
in metals, slags, chrome baths, organic substances, and gases, determination by microanalysis, (9) 220*e*.
in reversible poisoning of oxide coated cathodes, (10) 237*f*.
smelting residue, estimation of quality as Portland cement admixture, (10) 226*b*.
systems. See *Systems*.
Sulfuric acid, inorganic cement mortar for use with, (5) 107*b*.
production from waste pickle liquor, P (11) 252*i*.
Surface, activity, of thermally aged silica gel, (5) 128*i*.
area, determination by adsorption of N, (3) 74*a*.
effect on oxidation of SiC, (1) 20*a*.
effect on quartz-cristobalite transformation in silica brick, (1) 9*c*.
effect on transformation of quartzite and rock crystal, (1) 20*i*.
of Florida kaolinite, relation to exchange capacity, (2) 48*j*.
of powdered materials, changes during reactions in solid state, (5) 123*a*.
of silica gels, relation to pretreatment, (5) 128*j*.
of buffers, chemical reactivity compared with that of bulk volume, (2) 46*e*.
electronic microscopes for top illumination, P (7) 166*a*.
ground glass, instruments for detecting irregularities in, (3) 57*c*.
phenomena, in fired porcelain bodies, (9) 213*b*.
roughness, dependence of friction on, (2) 27*e*.
roughness, evaluation methods, B (5) 130*e*.
specific, determination by adsorption, literature survey, (5) 128*h*.
of fine powders, determination, (5) 124*e*.
large, of alumina gel, (1) 21*j*.
of powder, rapid estimation, (7) 178*d*.
of silicates with tubular primary crystals, (5) 123*c*.
structure, in corundum, I, (10) 245*i*.
of quartz powders, (5) 123*a*.
of silica gel, changes after tempering at higher temperatures, (5) 123*b*.
treatment, of brick, methods, (2) 34*j*.
Surface-active substances, adsorption on gypsum, (1) 2*f*.
in mortar and concrete, (2) 28*j*.
Surface tension, measurements on binary phosphates, (6) 135*g*.
measurement on molten glasses in system CaO–Al_2O_3–SiO_2, (2) 32*e*.
role in determining clay-water properties, (10) 245*d*.
of soda-lime-silica glasses, effect of TiO_2 on, (9) 207*i*.
variations calculated with improved approximation for activity coefficient, (8) 202*a*.
Suspensions. See also *Slips*.
alumina, study of, III, (2) 48*e*.
clay. See *Clays*.
liquid-solid, vibratory apparatus for screening, P (9) 216*e*.
nonflocculated, theoretical relation between concentration and sedimentation velocity, (9) 220*c*.
settling, of spherical particles, viscosity of, (9) 221*c*.
statistical theory of particle size distribution in, (5) 128*b*.
viscosity and sedimentation of, IV, (1) 21*i*.
Swelling, intracrystalline, of chain-type polyphosphates, (5) 123*i*.
Symposiums, on elasticity and viscoelasticity in ceramics, (7) 180*b*.
on microscopy, B (5) 130*i*.
on properties of nonstoichiometric compounds, (7) 180*d*.
on solid state diffusion, B (4) 104*f*.
Synthesis, of Al boride single crystals, (3) 76*e*.
of carnotite and alkali analogues, (4) 102*a*.
of chrysotile, P (7) 168*g*.
of cobaltiferous clays, (7) 180*h*.
of corundum mikrolit, new developments, (9) 217*j*.
of cuspidine, (3) 78*h*.
of defined iron oxides, varying conditions, (5) 128*b*.
of diamonds, P (11) 249*g,h,i*.
of diopside, (3) 63*d*.
of fibrous K-Pb silicate, (3) 78*b*.
of fluoramphiboles from melts, (3) 78*f*.
of highest fluorides of rare elements by halogen fluorides, (11) 272*h*.
hydrothermal, of wairakite and calcium-mordenite, (3) 75*f*.
of sodium hydride, (3) 70*b*.
Synthesis (*continued*)
of superoxides of alkaline earth metals, I–IV, (9) 221*e*.
of thorite crystals, (3) 74*g*.
of TiC, (7) 161*b*.
of uvarovite, (7) 179*j*.
Systems. See also *Equilibrium studies*.
α-alumina–silica, crystallization in, I, (7) 178*i*.
Al_2O_3–Cr, cermets in, fabrication by hot pressing, (6) 138*i*.
Al_2O_3–Cr_2O_3, conductivity of, (1) 21*d*.
Al_2O_3–glass, conductivity of, (1) 21*d*.
Al_2O_3–mullite, conductivity of, (1) 21*d*.
alumina–silica, crystallization of mullite in, (5) 127*j*.
Al_2O_3–SiO_2, revised equilibrium diagram, (7) 178*f*.
Al_2O_3–ZrO_2, conductivity of, (1) 21*d*.
As–Tl–S, As–Tl–Se, and As–Se–S, low-melting glasses in, (6) 134*j*.
BaO–Fe_2O_3, phase diagram, (4) 101*h*.
BaO–SnO_2, and BaO–PbO_2, studies of, I, II, (7) 174*g*.
BaO–V_2O_5–P_2O_5, semiconductor glasses in, (5) 116*g*.
BeO–TiO_2 and BeO–ZrO_2, microscopic and X-ray study, (11) 271*c*.
BeO–TiO_2–ZrO_2, establishment of new phase diagram, (11) 270*j*.
BeO–UO_2–ThO_2, X-ray and metallographic study, (11) 270*b*.
B_2O_3–P_2O_5 and B_2O_3–$AlPO_4$, research for fields of glass formation, (9) 207*e*.
CdO–MnO–Fe_2O_3, high-speed magnetic components from, (1) 12*i*.
$Ca_3Al_2(SiO_4)_3$–$Y_3Fe_5(FeO_4)_3$, solid solutions in, (7) 178*h*.
CaO–Al_2O_3–SiO_2, mullite-corundum boundary, (1) 20*h*.
strength development of quenched glassy slags in, (5) 106*e*.
surface tension and density measurements on molten glasses in, (2) 32*e*.
CaO–Al_2O_3–SiO_2–MgO, strength development of synthetic slags in, (5) 106*f*.
CaO–Al_2O_3–SiO_2–H_2O, studies in, IV, (4) 102*h*.
CaO–Al_2O_3–TiO_2–SiO_2, thermal equilibrium diagram of, (7) 177*e*.
CaO–MgO–SiO_2–Al_2O_3, refractoriness test of portion of, (3) 61*e*.
CaO–MgO–SiO_2–Al_2O_3–Cr_2O_3–Fe_2O_3, solid phase distribution in, (9) 219*c*.
CaO–SiO_2–TiO_2, changes in electrical conductivity in, (5) 113*c*.
CaO–SiO_2–H_2O, conditions of formation of Ca hydrosilicates in, (6) 132*d*.
CaO–SiO_2–H_2O, phase equilibria in high lime portion, (4) 102*h*.
CaO–TiO_2–SiO_2, opaque white glazes in, (5) 115*b*.
$CaSiO_3$–$SrSiO_3$, subsolidus study, (2) 47*d*.
cryolite–alumina, determination of phase diagram by quenching methods, (3) 73*j*.
Dy_2O_3–Al_2O_3, Dy_2O_3–CeO_2, Dy_2O_3–Nb_2O_5, Dy_2O_3–UO_2, and Dy_2O_3–ZrO_2, ceramic compositions in, (4) 100*j*.
Fe–Al–O, phase relations in, (7) 176*a*.
Fe–Cr–O, Fe–Mg–O, Fe–Al–Cr–O, and Fe–Al–Cr–Mg–O, phase relations in, (7) 176*e*.
Fe–Mg–O, and Fe–Mg–Cr–O, and Fe–Mg–Cr–Al–O, phase relations in, (7) 176*g*.
Fe–Mn, ferrite, ferromagnetic crystalline anisotropy, (11) 262*j*.
iron oxide–Al_2O_3–Cr_2O_3, equilibrium studies, (1) 20*c*.
iron oxide–Cr_2O_3, in air, phase relations, (5) 126*f*.
iron oxide–Cr_2O_3–SiO_2, phase equilibria in air, (11) 271*e*.
FeO–MgO–Fe_2O_3, phase equilibria in ferrite region of, (5) 116*f*.
FeO–MnO–SiO_2, I, (7) 180*i*.
Fe_2O_3–Mn_3O_4, (3) 78*j*.
kaolinite–water, development of electrical charge on particles in, (11) 271*g*.
lamellar, Fourier transform methods for studying scattering from, (7) 173*g*.
La_2O_3–iron oxide, in air, phase equilibria, (8) 201*h*.
PbO–B_2O_3–P_2O_5 and PbO–B_2O_3–$AlPO_4$, fields of glass formation in, (9) 207*e*.
$PbTiO_3$–$Pb_{0.5}NbO_3$, and $PbTiO_3$–$Pb_{0.5}TaO_3$, properties of solid solution ceramics in, (4) 92*f*.
lime–alumina–water, at 1°C., (1) 21*a*.
LiF–UF_4–ThF_4, equilibrium diagram for, (5) 126*d*.
Li_2O–B_2O_3–SiO_2, phase relations in, (2) 48*c*.
Li_2O–TiO_2–SiO_2, opaque white glazes in, (5) 115*b*.
MgF_2–BeF_2, CaF_2–BeF_2, and SrF_2–BeF_2, glasses in, (5) 111*f*.
MgO–Al_2O_3–SiO_2, bodies in, effect on crazing and peeling of lead glaze, (1) 10*g*.
mullite-corundum boundary, (1) 20*h*.
porcelain bodies in, physical properties, (2) 38*h*.
MgO–Al_2O_3–SiO_2–H_2O, hydrothermal studies, (4) 102*i*.
MgO–BeO, conductivity of, (1) 21*d*.
MgO–FeO–Fe_2O_3, solid solutions in, (11) 271*a*.
MgO–$MgAl_2O_4$, conductivity of, (1) 21*d*.
MgO–Mg_2SiO_4, conductivity of, (1) 21*d*.
MgO–MnO–Fe_2O_3, magnetic components from square-loop ferrites of, (1) 12*i*.
MgO–MnO–SiO_2, phase diagram, (4) 102*c*.
MgO–NiO, conductivity of, (1) 21*d*.
MgO–SiO_2–H_2O, reactions below 300°C., I, (11) 272*i*.
montmorillonite–water–acetone–NaCl, sorption studies in, (5) 125*k*.
KCl–$TiCl_2$, phase diagram of, (1) 20*c*.
KF–BeF_2, thermal and X-ray analysis, (9) 221*c*.
K_2O–Al_2O_3–SiO_2, equilibrium diagram, comparison with reactions of kaolinite-mica-quartz mixtures, (11) 270*f*.
Systems (*continued*)
rare-earth oxide, binary, perovskite-type compounds in, (3) 77*b*.
rare-earth oxide–water, phase equilibria in, (1) 21*b*.
rubber–sulfur, glass formation in, (7) 173*a*.
Rb_2O–PbO–SiO_2 and Rb_2O–BaO–SiO_2, properties of glasses in, (9) 208*f*.
SiO_2–MgO–Al_2O_3, forsterite ceramic body in, P (5) 117*j*.
Si–N, properties of Si_3N_4, (5) 128*f*.
Si–SiC, conductivity of, (1) 21*d*.
NaF–AlF_3–CaF_2–Al_2O_3, liquidus curves in, (9) 220*g*.
Na_2O–BaO–V_2O_5–P_2O_5, semiconductor glasses in, (5) 116*g*.
Na_2O–MnO–SiO_2, liquid slags in, (1) 21*c*.
Na_2SiO_3–$Na_2Si_2O_5$, activities and structure of melts in, (1) 4*e*.
solid–solution, isotope-exchange experiments in, (7) 177*e*.
SrO–Al_2O_3, microscopic and X-ray re-examination, (11) 272*a*.
SrO–Na_2O–B_2O_3–SiO_2, SrO–Na_2O–Al_2O_3–SiO_2, and SrO–TiO_2, leaching, volatilization, and enamel-forming properties of glasses in, (7) 157*e*.
sub-, BaO·$2SiO_2$–$2BaO·3SiO_2$, phase equilibria in, (2) 47*f*.
ternary alkali-alkaline earth-beryllium fluoride, glasses in, (5) 111*h*.
TiC–Co, pressing of cermets of, (4) 95*b*.
TiO_2–SiO_2, reinvestigation, (2) 48*b*.
U–C, high-temperature X-ray diffraction study, (3) 75*a*.
UF_4–ThF_4, equilibrium diagrams for, (5) 126*d*.
UO_2–ThO_2, oxidation studies of solid solutions in, (11) 259*i*.
UO_2–UO_{2+x}–ThO_2, conductivity of, (1) 21*d*.
UO_2–ZrO_2, phase diagram, (10) 245*c*.
ZnO–TiO_2, study by quenching, hydrothermal, strip-furnace, and solid-state-reaction, (4) 101*j*.
ZrO_2–HfO_2–CaO, conductivity of, (1) 21*d*.
ZrO_2–TiO_2, microscopic and X-ray study, (11) 271*c*.

Talc, (6) 146*b*. See also *Soapstone; Steatite*.
Indian, for high frequency insulators, (1) 11*c*.
magnesite, stoppers and runner brick from, (1) 9*b*.
and sea-water MgO, properties of forsterite porcelain from, (4) 90*f*.
-tremolite, optical study of relations of, (2) 47*d*.
-tremolite, structural study of relations, (2) 48*a*.
Tanks. See *Furnaces, glassmelting*.
Tantalum, crucibles, protection from reaction with molten uranium, P (11) 261*b*.
in lead titanate ceramics, properties, (4) 92*f*.
in massifs of Russian nepheline syenite, geochemistry of, (3) 70*i*.
oxide, in mixtures with Nb, Fe, and Ti oxides, X-ray spectrographic determination, (3) 79*f*.
oxide, in prevention of opalescence in silicate glasses containing fluorides, (1) 4*e*.
as replacement for ThO_2 in optical glasses, (5) 110*j*.
at very high fields, ionic conductivity of, (2) 46*i*.
systems. See *Systems*.
in ternary nitrides, (5) 126*g*.
Technology, objectives and characteristics in free world and Soviet world, (5) 129*h*.
Tektites, chemical composition, (8) 199*i*.
origin of, (4) 101*k*; (10) 228*f*.
Television screens. See *Screens*.
Television tubes. See *Tubes*.
Tellurides, of Ti, Zr, Hf, and Th, I-IV, (7) 180*g*.
Tellurium, fluorescence, in KI crystal, (2) 39*f*.
systems. See *Systems*.
Temperature, above 1600°C., thermocouple materials for, (8) 197*a*.
apparent, measurement at melting points of metal oxides in solar furnace, (2) 46*c*.
changes, apparatus for detecting, P (4) 96*j*.
control. See also *Controls*.
for drier, P (8) 198*a*.
for 4000°F. laboratory kiln, (5) 120*e*; (7) 165*d*.
in oil burning kiln, (2) 43*f*.
Curie, of $BaTiO_3$, effect of pressure on, (4) 92*g*.
Curie, of $BaTiO_3$, lowering by chemical reduction, (5) 125*d*.
dependence, of electron-bombardment-induced conductivity in MgO, (4) 92*h*.
determination in tunnel kiln by measurement of shrinkage of wall tile fired in, (10) 236*a*.
effect on, adhesion of dolomite to sintered hearth of open-hearth furnace, (1) 8*f*.
grindability and quality of Portland cement clinker, (5) 107*c*.
kaolinite reactions, (5) 128*g*.
sulfides in glasses, (7) 156*c*.
transformation of quartzite and rock crystal, (1) 20*i*.
elasticity-, relations in refractories, (1) 8*g*.
gradients, instrument for establishing in enameling furnaces, (2) 30*c*.
high, carbon arc image furnace and microscope for studies at, (4) 96*h*.
materials for, B (9) 224*c*.
measurement of, (8) 196*j*.
measurement with pyrometer brown glasses as absorption filters, (11) 266*f*.
physicochemical measurements at, B (10) 247*i*.
processes, kinetics of, B (10) 246*i*.
property measurement at, B (6) 152*d*.
reactions, in clay minerals, X-ray study, (7) 180*a*.
indicating device, for tunnel kiln, P (3) 60*f*.

Temperature (*continued*)
indicator, P (8) 197*d*.
IUPAC Commission on, (8) 191*i*.
liquidus, measuring with microscope in melts to 2300°C., (5) 129*a*.
measurement. See also *Pyrometers; Pyrometric cones; Thermocouples; Thermometers.*
and control, thermistors in, (2) 43*b*.
device, P (7) 166*c*.
and indicating means, P (5) 119*h*.
and recording, along rotary kiln, (4) 96*i*.
of unenclosed objects, radiation methods, (10) 240*b*.
mixed air, electric device for measuring, P (11) 267*a*.
-pressure-density, relations in UO_2, (4) 88*d*.
rise, in fire testing of walls, prediction of, (1) 22*c*.
sensing, by pressurized liquid mixtures, P (11) 267*c*.
in solid UO_2 rods, (6) 140*e*.
to 2800°C., thermocouples for measuring, (5) 119*c*.
Tempering, of glass. See *Glass; Glassmaking apparatus and equipment.*
Tensiometers, direct-reading torsion-wire, (10) 240*c*.
Terminology. See *Nomenclature.*
Terra cotta, products, technology of, B (1) 25*j*.
roofing tile, weathering of, (2) 34*j*.
Testing. See also *Analysis* and specific types.
of brick. See *Brick.*
of cement. See *Cement.*
of ceramic bodies and ware, B (3) 80*e*.
of clays. See *Clays.*
of concrete. See *Concrete.*
contraction, of refractory-slag reactions, (6) 139*i*.
device, for miniature magnetic cores, P (6) 143*e*.
of electrically conductive articles, P (11) 257*b*.
of enamels. See *Enamels.*
of glass. See *Glass.*
laboratory, for evaluation of ladle brick, (1) 8*c*.
mechanical, with 3000°F. radiant heat furnace, (4) 97*j*.
nondestructive, handbook, Vols. I, II, B (10) 247*c*.
of magnetic materials for coercive force, P (1) 15*g*.
for strength of low-density concrete, (3) 54*d*.
planning, statistical methods for, (7) 164*i*.
of refractories. See *Refractories.*
significance of differential shrinkage of clays and bodies caused by particle orientation, (7) 171*j*.
for tensile strength. See *Tensile strength.*
of working properties of mortars, (9) 204*e*.
Texture, effect on properties of phyllitic minerals, (5) 124*e*.
effect on slugging of refractories, (6) 138*d*.
Thermal analysis, complex, use in technical and physicochemical research, (5) 123*h*.
differential, apparatus for, (6) 144*f*.
application to building science, bibliography, B (4) 103*i*.
of Brazilian kaolins, (5) 121*c*.
clay-carbonate-soluble salt interaction during, (3) 73*j*.
of clay minerals, between 0° and −195°C., (7) 172*a*.
of clay minerals, interpretation of, (7) 174*c*.
correlation to TGA temperatures in decomposition reactions, (2) 46*e*.
in determination of mineralogical transformations of gypsum, (5) 106*e*.
in determining reactivity of CaO, (7) 172*c*.
of hydromuscovite, (6) 148*c*.
in identification of impurities in plaster of Paris, (1) 3*a*.
of materials, apparatus for, P (11) 267*i*.
of pyrite and marcasite, (3) 74*c*.
in refractories industry, (2) 35*c*.
of sphalerite, (3) 74*e*.
in study of gypsum, (3) 53*c*.
study of monazites, (6) 147*j*.
of Y and La compounds, (8) 200*h*.
of zirconia, (5) 127*f*.
by dynamic differential calorimetry, (1) 20*e*.
of reduction of MoO_3 and oxidation and nitridation of Mo, (5) 128*h*.
of rock minerals, III, (11) 272*e*.
of system KF–BeF_2, (9) 221*c*.
Thermal conductivity. See *Conductivity, thermal.*
Thermal decomposition. See *Decomposition.*
Thermal expansion. See *Expansion.*
Thermal properties, constants, of ceramic products and raw materials, I, (7) 174*j*.
of $FeTiO_3$ and $NiTiO_3$, (6) 142*e*.
of $MgSO_3$, (7) 179*h*.
of nonmetallic single crystals, B (11) 274*j*.
of six glasses and two graphites, (8) 188*f*.
transformations, in alumina, (7) 176*f*.
Thermal shock resistance. See *Shock resistance, thermal.*
Thermistors. See *Electric resistors.*
Thermobalances, in analysis of kaolins, (1) 14*j*.
high-precision, in study of thermal decomposition of Ca oxalate and Ca carbonate, (5) 125*b*.
new, (8) 196*j*.
for quantitative determination of clays, (1) 15*d*.
Thermocouples, P (4) 97*c*. See also *Controls; Temperature.*
carbon-carbon boron, for use above 2000°C., P (11) 267*e*.
compared with other methods for measuring high temperatures in electric furnaces, (6) 145*d*.
element, P (4) 97*a,b*.
effect of Si vapor on, (2) 38*d*.
harness, P (7) 166*h*.
high temperature, developments using noble metals, (9) 216*i*.

Thermocouples (*continued*)
materials, for temperatures above 1600°C., (8) 197*a*.
Pt, care of, (9) 206*c*.
prolonging life of, P (4) 97*b*.
temperature monitor, P (9) 216*j*.
for temperatures to 2800°C., (5) 119*c*.
tungsten-rhenium, P (11) 267*h*.
for use in air at 1850°C., (7) 166*d*.
Thermodynamics, of fluorphlogopite mica, (2) 47*h*.
of ideal ferromagnet, (1) 13*j*.
properties, of fluorphlogopite mica, (2) 47*h*.
properties, of mixtures of quartz and feldspars, (8) 200*c*.
relation to crystals, B (4) 103*j*.
statistical, of cation distribution in ferrospinels, (4) 100*h*.
study, of SiC using mass spectrometer, (9) 221*g*.
theory, of ferroelectric ceramics, (4) 92*i*.
Thermography, in investigation of mineral binders, (5) 106*g*.
Thermogravimetric analysis, of clays and kaolins, (1) 15*d*.
correlation to DTA temperatures in decomposition reactions, (2) 46*e*.
in study of effect of grinding on kaolinite, (7) 176*d*.
in study of gypsum, (3) 53*c*.
Thermometers, apparatus for manufacture, P (2) 32*j*.
glass for, (11) 254*a*.
Pt resistance, (5) 119*h*.
Pt resistance, for high temperatures, (9) 216*f*.
Thickness, of enamels, measurement by Elcometer, (8) 187*c*.
gauge, for coatings, P (5) 119*e*.
gauge, probe for, P (8) 197*b*.
measurement, methods, (2) 47*a*.
sonic measuring of, P (6) 144*j*.
wall, of articles for ferromagnetic materials, device for measurement, P (8) 195*f*.
Thin sections. See *Microscopy.*
Thixotropy, of fractionated clay minerals, (5) 126*i*.
in kaolinite, (5) 129*a*.
of montmorillonite suspensions, (5) 127*j*.
observations on, B (6) 152*j*.
Thoria. See *Thorium, oxide.*
Thorite, crystals, synthetic, formation and properties, (3) 74*g*.
synthetic, X-ray study, (3) 79*c*.
Thorium, determination in ores, by liquid-liquid extraction, (7) 171*b*.
dioxide, in fuel element for nuclear reactor, P (1) 10*b*.
particle size, determination by radiometric sedimentometer, (8) 200*f*.
solid solutions with UO_2, (6) 148*e*.
fluoride, production, P (1) 10*a*.
fluoride, systems. See *Systems.*
oxide, high purity, liquid-liquid extraction process for recovery of, P (11) 268*a*.
recovery from Th silicates and phosphates, P (4) 100*d*.
reinforced by metal fibers, physical properties of, (10) 234*e*.
replacement in optical glasses, (5) 110*j*.
systems. See *Systems.*
radiation dosage safety limits, relation to working of Th-containing glasses, (7) 156*e*.
separation from, multiple oxide minerals, (9) 220*i*.
rare earths by ion-exchange, (9) 220*e*.
rare earths by silicylate process, P (1) 22*a*.
spectrophotometric determination in dilute solutions, (7) 179*i*.
sulfide, selenide, and telluride of, I–IV, (7) 180*g*.
tetrachloride, production, P (7) 167*c*.
ultraviolet spectrophotometric determination, (3) 78*i*.
Thread guides, for textile machine, P (10) 236*g*.
Tile. See also *Pipe.*
acoustic fireproof, P (9) 212*b*.
automation in manufacture of, (8) 193*g*.
bloating during firing, causes of, (3) 50*j*.
building, in prefabricated structure elements, (5) 113*a*.
cement roofing, device for troweling coatings on while moving, P (11) 251*i*.
die for forming, P (5) 115*g*.
dust-pressed earthenware, properties, I, (3) 63*c*.
economy packaging, (11) 257*g*.
floor, oil heated tunnel kiln for firing, (9) 217*c*.
future of, (11) 257*i*.
glass, cemented, study of stress in, (2) 31*i*.
glazed, decorative, use of volcanic ash in, (1) 11*a*.
glazed, elastic properties, (1) 11*j*.
humidity drier for, (2) 41*e*.
Indian, delayed crazing, (1) 10*f*.
Indian, glazed wall, properties of, (1) 11*c*.
interlocking, increasing press output of, (6) 141*h*.
method of changing color, P (3) 60*b*.
mortar for installing, P (9) 205*b*.
mosaic, equipment for producing sheets of on paper, (5) 115*h*.
mosaic, method and apparatus for making, P (4) 91*c*.
panels, apparatus for making, P (5) 115*f*.
refractory, in catalytic reactor, P (1) 9*i*.
roofing, colonial type, comparative study, (6) 137*f*.
frost resistance of, (6) 137*j*.
plant, mixer and stoker for, (3) 60*c*.
terra-cotta, weathering of, (2) 34*j*.
setter, loading apparatus, P (9) 213*f*.
setter, one-piece ceramic compact, P (11) 262*f*.
structural, hollow, setting shoe for wall panel of, P (7) 160*a*.
wall, P (3) 52*d*.
conveyer-type driers for, (2) 43*f*.

Tile, (wall *continued*)
decorative, of Bruno Paoli, (6) 132*a*.
effect of ignition loss on quality, (7) 162*c*.
fired in tunnel kilns, relation between temperature profiles and porosity and shrinkage, (10) 236*a*.
glass, with fire-polished surfaces, (10) 228*e*.
glass, new production method, (8) 188*j*.
glazes for, (6) 140*j*.
placing in saggers, (2) 38*a*.
sealing and mounting, P (8) 194*d*.
Time, effect on transformation of quartzite and rock crystal, (1) 20*i*.
Tin, as color in ruby red glass, P (7) 158*g*.
Mn-, substituted spinels, magnetic properties, (1) 12*g*.
oxide, films, on glass, surface resistivity of, P (10) 231*b*.
in opacification of high-temperature glazes, (2) 38*i*.
in opaque glazes, (1) 10*i*.
replacement by ZrO in opaque glazes, (5) 115*i*.
stannic, in spark plug insulators, P (5) 116*a*.
systems. See *Systems.*
stannous selenide, crystal structure, (6) 142*b*.
(II) hydroxide, crystalline, stabilization by silicic acid, (5) 128*a*.
Titanates. See also *Dielectrics* and specific types.
ceramic, compositions, P (5) 118*a*.
ceramics, permanent electrostatic polarization, P (9) 214*j*.
in engineering, (8) 193*f*.
Titania. See also *Enamels; Rutile; Titanium, dioxide.*
effect on, physical properties of borate-phosphate glasses, (2) 31*b*.
properties of silica refractories, (6) 138*g*.
viscosity and surface tension of soda-lime-silica glasses, (9) 207*i*.
in engobes, (9) 213*e*.
hydrate, filtration of, P (9) 218*f*.
magnetic transitions in, (9) 214*e*.
nature and behavior in molten slag, (7) 170*b*.
as opacifier for enamels, (10) 226*h,i*.
in refractory materials, colorimetric determination, (2) 36*d*.
refractory nonreactive to, P (3) 62*d*.
separation and recovery from ores, P (3) 72*f*.
systems. See *Systems.*
zirconia-, abrasives, (1) 1*f*.
Titanium, boride, high purity, P (3) 63*a*.
boride, from phosphates, P (8) 192*i*.
purification, P (5) 105*f*.
carbide. See also *Cermets.*
-base cermet, sintering of, I, (2) 36*j*.
crystalline, synthesis from TiO_2 and carbon black, (7) 161*b*.
formation from Ti hydride, (8) 191*j*.
in hard metal alloy, P (10) 235*b*.
-Ni, compact, shrinkage by heating in vacuum, (7) 160*h*.
producing tool steels containing, P (11) 260*i*.
in sintered alloy, P (10) 234*h*.
systems. See *Systems.*
casting, mold for, II, (10) 233*c*.
in chemical industry, (3) 71*d*.
chloride, systems. See *Systems.*
determination with cupferron, EDTA as masking agent, (7) 171*c*.
dioxide. See also *Rutile; Titania.*
in capacitors, P (1) 13*f*.
cooling of hot gases containing, P (5) 122*h*.
modified, P (10) 242*e*.
pigment, production, P (4) 100*a*.
preparation, P (9) 218*b*.
production, P (10) 242*d*.
production of TiO from, P (8) 198*g*.
ester, as coating for glass fibers, P (10) 231*c*.
fluoride, systems. See *Systems.*
forsterite ceramic with thermal expansion same as, (9) 213*j*.
incorporation into transparent silica glass, P (1) 6*f*.
and iron, simultaneous estimation in silicates by polarography, (7) 178*j*.
nitride, high purity, P (7) 161*f*.
nitride, making of, P (1) 18*e*.
oxide, chlorination of, P (9) 218*i*.
films, by anodic oxidation, photoelectric properties, (7) 163*c*.
in mixtures with Ta, Nb, and Fe oxides, X-ray spectrographic determination, (3) 79*f*.
in molten slags, effect on electrical conductivity, (5) 113*e*.
removal from raw materials by Cl, (2) 44*f*.
silicide, refractory articles, P (6) 140*d*.
skull type arc-melting furnace for, I, II, (1) 16*d*.
spinel pigments, substitution of Co and Ni for Mg and Zn, (4) 84*c*.
suboxides, in electrically conductive glass, P (8) 189*c*.
sulfide, selenide, and telluride of, I–IV, (7) 180*g*.
tetrachloride, production, P (7) 167*d*.
tetrachloride, purification, P (7) 168*d*.
Titration. See also *Analysis.*
of Ca in presence of Mg, P (4) 103*a*.
conductometric, of acid montmorillonite suspensions, (5) 123*i*.
EDTA, of Ca with Calcon as indicator, addition of polyvinyl alcohol, (3) 75*g*.
EDTA, of Co in cemented carbides, (10) 244*a*.
indirect, in determination of Zr and Hf in oxide mixtures, (10) 244*j*.
of Mn, (11) 271*g*.
methods, oxidation-reduction reactions, B (4) 104*j*.
Tobermorite, dehydration, B (9) 223*f*.
Tools. See also *Drills.*
abrasive, dressing of, P (1) 1*h*.

Tools (*continued*)
automatic repeated impact, for piercing precious stones and glasses, (5) 118*e*.
ceramic, for finishing high-strength alloy steels, (3) 51*f*.
machinability study, IV, (7) 153*e*.
research, (10) 225*e*.
cutting, automatic, for glass sheets, P (11) 255*i*.
ceramic materials for, (11) 249*e*.
with diamond or metal carbide particles, P (1) 1*g*.
and drawing, sintered alumina for, P (11) 262*d*.
for glass, P (7) 158*j*.
for hard materials, device for lowering automatically, P (5) 118*g*.
sintered carbide and oxide ceramic materials for, (11) 249*g*.
diamond, method of forming, P (6) 131*g*.
grinding. See *Grinding and polishing apparatus*.
machine, ceramics for, I, II, (1) 1*e*.
materials, cemented carbides as, (6) 150*a*.
for producing test specimens from refractory materials, (3) 61*g*.
rotating, for forming hollow glassware, patent review, (7) 156*j*.
steels, containing TiC, production of, P (11) 260*i*.
Topaz, in U. S., bibliography of, (2) 44*g*.
Trace elements. See *Elements*.
Tracers. See *Radioactive tracers*.
Transducers, electromechanical, $BaTiO_3$ in, P (3) 65*j*.
ferroelectric ceramic composition for, P (4) 93*c*.
piezoelectric, bender type, P (10) 238*b*.
Transfers. See *Decoration*.
Transformers, electrical, printed, P (4) 94*a*.
Transitions, antiferromagnetic, in zinc ferrite, (11) 262*h*.
temperatures, brittle-ductile, in ionic cyrstals, (7) 169*j*.
Translators, germanium, manufacture of, P (9) 214*d*.
semiconductive, manufacture, P (9) 214*e*.
Translucency, of porcelain bodies, (3) 64*b*.
relative, of bone-china clay-stone bodies, (1) 11*f*.
Transmission, spectral, of soda-lime-silica glass, effect of iron compounds, (11) 253*f*.
Transmittance, infrared, of optical glasses at high temperature, (3) 56*g*.
infrared, of silicate glasses, effect of fluorides, (1) 4*e*.
of optical glasses in infrared, (2) 31*j*.
thermal, of external walls, measurement by guarded hotplate method, (6) 137*g*.
Transportation, of fragile irregularly shaped articles, container for, P (6) 137*c*.
palletized, of refractory products, B (2) 50*h*.
palletized shipment, cost advantages, (6) 133*h*.
Trass, ability to "fix" lime and effect on concrete stability, (7) 154*b*.
Tremolite, talc-, optical study of relations of, (2) 47*d*.
talc-, structural study of relations, (2) 48*a*.
Tricalcium silicate. See *Calcium, silicate*.
Tridymite, formation, (1) 19*j*.
structure study, (11) 271*e*.
Trituration. See *Crushing and grinding*.
Trona, crystallography of, (3) 75*e*.
Tubes, cathode-ray, color television, P (3) 58*e*.
electron absorbing mask for, P (10) 237*j*.
envelope, P (3) 58*b*.
envelope, apparatus for uniformly heating, P (2) 32*a*.
glass-to-metal seals in, P (1) 6*j*; P (6) 143*h*.
machine for sealing faceplates to, P (11) 256*f*.
manufacture, P (7) 158*b*; P (9) 209*b*.
mask for preventing cathode poisoning, P (3) 57*d*.
post acceleration, forming patterned phosphor screens in, P (11) 255*e*.
for radarscopes, P (10) 238*e*.
sealing arbor for welding glass neck to, P (6) 145*d*.
electric discharge, P (6) 143*d*.
electron, annealing of, (6) 135*c*.
apparatus for tipping off, P (9) 210*a*.
ceramic wafer, P (4) 93*f*.
coating for cathode, P (7) 156*a*.
detectors, universal, for X-ray spectrograph, (7) 165*g*.
forsterite body for soldering to Ti metal parts, (9) 213*j*.
gaseous, P (7) 155*e*.
materials and techniques for, B (7) 183*c*.
metallizing parts for, P (3) 66*e*.
method of making, P (2) 40*j*; P (4) 93*a*.
Mo in parts for, (7) 157*e*.
receiving, crushing resistance in gas pressure chamber, (4) 84*h*.
sintered cathodes for, P (4) 94*f*.
stacked ceramic, P (4) 93*e*.
ultrahigh frequency, stem assembly for, P (10) 238*f*.
fiber glass, reinforced, P (11) 254*h*.
firing suspended in shaft kiln, P (11) 267*d*.
glass, gauging and sorting apparatus, P (2) 33*a*.
making small bottles from, P (9) 209*a*.
spray coating of inner surface of window of, P (4) 86*j*.
vapor coating of, P (3) 59*f*.
glow discharge, P (7) 155*f*.
with many lead-in wires, silica seals for, (7) 163*j*.
metal, enameling interior of, P (4) 84*g*.
storage, with electroluminescent phosphor and ferroelectric element, P (3) 59*c*.
X-ray, fine focus, (5) 110*f*.
Tuff. See *Ash, volcanic*.
Tungsten. See also *Cermets*.
Tungsten (*continued*)
carbide, anvils, in high pressure apparatus, (7) 170*b*.
in hard metal alloy, P (10) 235*b*.
purification, P (5) 105*g,h*.
in sintered alloy, P (10) 234*h*.
effect on evaporation of Al_2O_3, (4) 101*a*.
in material for metallizing ceramics, P (1) 13*i*.
ores, determination of Ca in, (3) 73*i*.
oxide, spectrographic determination of Al, Fe, K, and Si in, (3) 77*j*.
-rhenium thermocouple, P (11) 267*h*.
spectral emissivity, (4) 101*i*.
trioxide, phase transition in, (3) 65*h*.
Turbines, blades. See also *Aircraft ceramics*.
ceramic materials for, (1) 9*h*.
method of producing, P (10) 235*c*.
Twinning, of crystals. See *Crystals*.

Ultrasonics. See *Sonics*.
Ultraviolet, extensions of arc spectra of alkaline earths, (7) 181*h*.
light, luminescence of KI:Tl induced by, (2) 39*f*.
Unit operations, principles, B (11) 274*d*.
Urania. See *Uranium, oxide*.
Uranium, compounds, thermogravimetric control of, (7) 181*e*.
deposits, in swampy areas, biogeochemical survey in prospecting for, (1) 17*i*.
dicarbide, high-temperature cubic phases, (10) 244*a*.
dioxide, Al_2O_3 clad, for nuclear fuel, (9) 210*g*.
bibliography on, B (9) 222*h*.
in Bi, slurry preparation, P (9) 222*c*.
data book on, B (9) 223*j*.
films, visible and ultraviolet absorption of, (6) 149*c*.
in fuel element for nuclear reactor, P (1) 10*b*.
high density, preparation, P (3) 62*g*.
as impregnant in refractory compacts, P (10) 235*i*.
preparation methods and effects of process variables on its fabricability, B (10) 247*h*.
pressure-temperature-density relations in, (4) 88*d*.
solid rods, temperatures, thermal stresses, and displacements in, (6) 140*e*.
solid solutions with ThO_2, (6) 148*e*.
and UO_2-metal mixtures, warm pressing of, (4) 89*c*.
(V) compounds, magnetochemistry of, (1) 20*f*.
for glass and ceramic industries, (6) 149*j*.
isotopes, porous membranes for separation by gaseous diffusion, (10) 233*g*.
mineralization, occurrence of chrome mica-clay in relation to, (3) 73*i*.
molten, protection of Ta crucible from reaction with, P (11) 261*b*.
nonstoichiometric oxides of, (7) 180*g*.
oxide, cleavage, (5) 129*e*.
in high-density fuel elements for nuclear reactors, (1) 8*j*.
particles, preparation, P (3) 62*c*.
single-step conversion to UF_4, P (11) 273*c*.
sintering in range 1200° to 1300°C., (9) 211*h*.
systems. See *Systems*.
recovery from residues, P (1) 19*f*.
systems. See *Systems*.
trioxide, preparation, P (3) 72*b*.
trioxide, spectrophotometric determination of Mo in using dithiol, (4) 101*j*.
Uranothorite, synthetic, X-ray study, (3) 79*c*.
Uvarovite, stability and synthesis of, (7) 179*j*.

Vacuum, casting, of sanitary ware, (5) 115*e*.
fabrication, of glass tubing, (11) 254*d*.
high, materials for, B (7) 182*i*.
high, radiometric gauge for measurements in, (1) 15*a*.
pump, formula for selection of proper size for deairing, (11) 264*j*.
ultrahigh, production and measurement, (10) 240*d*.
Vacuum tubes. See *Tubes*.
Valency, covalence, theory of role in perovskite-type manganites, (3) 78*d*.
semicovalent exchange as mechanism in magnetic properties of spinels, (3) 78*b*.
Vanadates, rare-earth, relation of ionic radius to structures, (3) 77*a*.
Vanadium, colors, experiments on, (2) 38*a*.
dioxide, and VO_2–TiO_2 solid solutions, magnetic properties, electrical conductivity, and reflection spectra, (5) 125*d*.
in lower valence state, effects on electrical conductivities of high vanadium-phosphoric acid glass, (11) 253*h*.
pentoxide, action on aluminosilicate refractories, (11) 258*b*.
pentoxide, systems. See *Systems*.
spinels, preparation and properties, (6) 148*c*.
in ternary nitrides, (5) 126*g*.
trioxide, magnetic transitions in, (9) 214*e*.
Vaporization, of heavy-metal sulfide and selenide systems, (4) 92*e*.
method, for producing thin layers of semiconducting compounds, P (10) 239*a*.
process, for coating articles, P (3) 59*h*.
of rare earths, at high temperatures by effusion, (6) 149*a*.
Vapors, blasting, precision machine, P (1) 14*g*.
of metal chlorides, effect on surface hardness of sheet glass, (7) 157*b*.
Varistors. See *Semiconductors*.
Vector space, application in crystal-structure investigation, B (6) 152*g*.
Vermiculite, in clay bonded block, (11) 257*d*.
deposit, at Libby, Montana, origin of, (2) 44*j*.
Vermiculite (*continued*)
diffusion of exchangeable cations in, (8) 200*i*.
exfoliated, P (11) 269*f*.
insulating blocks, chemically bonded, P (5) 114*e*.
Japanese chloritic mineral resembling, (7) 170*d*.
Mg-, crystal structure of 14.36 a.u. phase, (3) 76*c*.
minerals, cation exchange capacity, (10) 243*j*.
particles, in well drilling mud, P (10) 243*a*.
reactions with glycerol and ethylene glycol, (3) 77*f*.
surface area changes by acid and thermal treatment, B (9) 223*i*.
thermal conductivity of, (8) 198*j*.
Vibration, for accelerating casting rate of sanitary ware, (2) 41*h*.
of concrete, factors affecting results, (5) 107*f*.
in production of thin-walled brick panels, (3) 60*a*.
in removing plaster particles from glass surfaces, P (3) 59*d*.
Viscometers, capillary, theoretical evaluation for measurement of viscosity of suspensions of spheres, (2) 48*f*.
industrial, classification, (8) 196*i*.
oscillating cylinder, for Newtonian liquids, experimental and theoretical study, (10) 240*a*.
parallel plate, theory of, (6) 144*j*.
technical, I–VI, (3) 68*h*.
vibration, in study of transition from liquid to solid, (2) 29*f*.
Viscometry, capillary-tube, application to stable suspensions, (1) 21*i*.
Viscosimeter, ORGRES, use on low melting clays, (1) 15*c*.
Viscosity, of aqueous kaolinite suspensions, (5) 129*f*.
control method, in process for hydrating lime, P (2) 29*h*.
of dolomite ramming mixes, (9) 211*i*.
dynamic, of viscoelastic liquids, II, (11) 271*e*.
of glass. See *Glass*.
gradients, of glass, effect on flow through open channels, (3) 56*h*.
of high-lead borosilicate glasses, (11) 254*b*.
of liquids, effect on sedimentation volume of powders, (5) 124*j*.
of low melting clays, measurement by twisting of specimen, (1) 15*c*.
measurements, of enamel ground coat frits, (4) 84*e*.
measurements at high temperature, B (6) 152*d*.
of mixtures, estimation of, (7) 173*d*.
of molten silica, (7) 181*c*.
relative, of clays blunged in high-intensity dispersion mill, (3) 63*i*.
of settling suspensions of spherical particles, (9) 221*c*.
of soda-lime-silica glasses, effect of TiO_2 on, (9) 207*i*.
of stable suspensions of spheres at low rate of shear, B (6) 152*j*.
of suspensions, IV, (1) 21*i*.
of suspensions of spheres, theoretical evaluation of capillary viscometers for measuring, (2) 48*f*.
variations, of glasses as function of time, (10) 229*h*.
of welding slag, (5) 113*g*.
Vitrification, of glass, effect of number of p electrons per atom, (1) 5*c*.
Volatility, of lead silicate and lead borate binary melts, (11) 254*e*.
Volatilization, rate, of glassforming substances, measurement, (9) 208*a*.
Volcanic glass, foamed and expanded product from, P (11) 256*j*.
Volcanic material, expandable clay minerals from, effect and geologic significance of K fixation, (3) 74*i*.
Voltage. See *Potential, electric*.
Volume, changes, in diffusion zone of oxide systems, (9) 222*a*.
of mixing, in system Na metaphosphate–K metaphosphate, (6) 135*a*.
molar, of liquid silicates, (8) 201*h*.
stability, of building lime, (3) 55*c*.
stability, of siliceous fire-clay coke-oven blocks, (11) 259*e*.
Volumeters, micro-, mercury, for solid specimens, (7) 165*j*.
Volumetric analysis. See *Analysis*.

Wairakite, hydrothermal synthesis, (3) 75*f*.
Walls, brick, effect of Silaneal treatment on strength, (11) 257*j*.
curtain, review and analysis, B (4) 103*d*.
fire testing of, prediction of temperature rise, (1) 22*i*.
external, measurement of thermal transmittance by guarded hotplate method, (6) 137*g*.
ideal material for, architect's viewpoint, (6) 137*i*.
Warpage, methods for determining, (2) 42*j*.
Water. See also *Humidity; Moisture; Steam*.
absorption, in fused silica, infrared study of, (2) 31*d*.
action on anhydrous calcium aluminates at 5°C., (7) 168*i*.
adsorption, multilayer, near saturation pressure on plane glass surfaces, (1) 5*e*.
and CO_2, melting of calcite in presence of, (3) 76*b*.
-cement ratio, effect on air voids in concrete, (1) 2*j*.
content, of boron oxide glasses, effect on infrared absorption spectra, (7) 157*f*.
effect on corrosion of borosilicate glass, (8) 188*c*.
effect on properties of clays and kaolins, (6) 148*a*.
effect on viscosity of slips of electrodialyzed clays, (5) 120*i*.

Water, content (*continued*)
of montmorillonite, relation to adsorption and retention of organic material, (3) 72*i*.
optimum, for forming building materials from plastic bodies, (3) 67*j*.
determination by dielectric measurements, (9) 219*a*.
determination of low concentrations of sulfate in, (7) 176*c*.
effect on glass container durability, (5) 110*c*.
effect on performance of fuel oil, (9) 217*g*.
in glass structure, infrared study, (9) 208*g*.
and kaolin, interaction, I, II, (7) 176*d*.
mixing, determination by Pfefferkorn method, use in process control, (3) 67*c*.
-proofing, ASTM Standards, B (2) 49*d*.
reaction with vitreous sodium silicates, (7) 178*e*.
removal, from clay, by centrifugal action, P (3) 71*j*.
removal, from foundry sand slimes, P (10) 241*d*.
sea, extraction of Mg from with milk of lime, P (10) 235*f*.
sea, recovery and concentration of chemical elements, P (8) 193*a*.
-sorption, of clay minerals, (3) 79*c*.
of homoionic clay minerals, (3) 79*e*.
by "phenyl" montmorillonite, (7) 179*c*.
spray, in pellet mills for carbon black, P (11) 270*a*.
systems. See *Systems*.
-vapor, adsorption on clays, B (9) 223*b*.
adsorption on glass, metal, and alumina ceramics in vacuum, (5) 109*c*.
adsorption on lead borosilicate glass in vacuum, (5) 109*d*.
condensing, test of enamel resistance to, (7) 155*i*.
effect on polished surface of flint glasses, (10) 229*f*.
in gaseous atmosphere, effect on oxidation of SiC, (1) 20*a*.
sorption on calcium oxide, (8) 201*e*.
sorption on kaolinite, B (9) 223*c*.
Water glass. See *Potassium, silicate; Sodium, silicate*.
Weathering. See also *Frost resistance*.
data, on enamel, electronic computer for processing, (2) 30*c*.
of terra-cotta roofing tile, (2) 34*j*.
Weighing. See also *Balances; Thermobalances; Thermogravimetric analysis*.
apparatus, P (1) 14*d*.
automatic, P (7) 165*c*.
for batches of granular material, P (5) 118*f*.
tilting disk, P (6) 144*d*.
hydrostatic, in precision density determination of large single crystals, (3) 77*c*.
pre-, of charge, device for, P (5) 118*f*.
semiautomatic, for granular materials, P (7) 168*f*.
Welding, automatic fixture for crusher rollers, P (4) 99*c*.
back-up strip, P (4) 59*g*.
of cast iron, coated electrode for, P (1) 4*c*.
electrodes. See *Electrodes*.
fluxes, composition and production of four types, (5) 107*g*.
high frequency resistance, (5) 108*h*.
Wells, cement for, P (11) 251*e*.
Wetting, angle, methods of measuring, (2) 42*h*.
of brick, effect on moisture penetration of brick masonry, (11) 257*j*.
phenomena, in determining adhesion, (11) 254*f*.
of refractory materials by molten glass, (3) 62*b*.
of solids, (5) 125*b*.
tensiometric technique, (10) 240*c*.
Whiteness, measurement of, by reflectometer, (5) 119*g*.
Whiteware. See also *Art and artware; Bodies, ceramic; Bone china; Dielectrics; Dinnerware; Faience; Heating elements; Insulators, electrical; Porcelain; Pottery; Spark plug insulators; Tile*.
body, composition, P (1) 11*e*.
control test, rate of filtration, (10) 236*i*.
flush tanks, hollow-walled, method of making, P (11) 262*g*.
Lekutherm resins in models for, (8) 194*c*.
lining for chemical process equipment, (7) 162*g*.
plastic batches, high-intensity dispersion mill for homogenizing, (11) 261*h*.
principles of good design in, (11) 250*e*.
Windows. See *Glass*.
Wollastonite, B (6) 150*e*.
β-, crystal structure, (4) 100*i*.
Work study, in glazed pipe industry, (1) 7*f*.
in pottery, (1) 11*b*.
Wüstite, magnetic structure, nature of defects, (1) 12*j*.
nonstoichiometry at high temperatures, (7) 180*d*.

X rays, analysis, apparatus, P (7) 182*a*.
of Co- and Ni-containing glasses, (7) 157*j*.
of geological formations, P (6) 149*e*.
nondestructive, of oriental ceramic ware, (1) 1*i*.
quantitative, of mixtures of silica modifications, (8) 191*h*.
spectrographic, of trace elements of rocks and minerals, matrix corrections, (3) 75*j*.
of system KF–BeF_2, (9) 221*c*.
data, for dolomite and ankerite, (3) 79*f*.
for lead compounds, I, (10) 243*j*.
for mullite and sillimanite, (3) 73*e*.
determination, of quartz, sources of error, (1) 21*f*.
in determination of quartz content of clays, (5) 124*d*.
diffraction, in determination of phase diagram of system BaO–Fe_2O_3, (4) 101*h*.
high-temperature, of U–C system, (3) 75*a*.
high temperature, vacuum furnace for, (8) 197*f*.
microradiography, in study of crystal dislocations, (9) 221*b*.
patterns, of $3CaO·SiO_2$ cells, (5) 126*c*.
problem solution, I, II, (8) 201*g*.
study, of antiferroelectric $PbZrO_3$, (10) 245*i*.
study, of coal structure, (10) 240*e*.
study, of tubular kaolin crystals, (7) 173*h*
of UO_2–ZrO_2 melted in helium, (10) 245*c*.
fluorescence analysis, apparatus, P (7) 165*i*.
fluorescence analysis, sample preparation, (9) 220*g*.
fluorescent spectrographic analysis, low-energy K, L, and M spectral lines, (7) 173*e*.
Fourier analysis of scattering curves of vitreous silica, (9) 221*i*.
in identification of oriented intergrowths of minor components of single crystals, (6) 148*d*.
intensity measurements, statistics in, (7) 179*c*.
method for measuring thickness of thin coatings, P (7) 166*c*.
nucleonic apparatus, P (7) 182*b*.
photographs, apparatus for indicating photometric curve, P (3) 79*e*.
photographs, Debye-Scherrer, apparatus for evaluation, P (11) 273*b*.
photography. See *Cameras; Photography*.
powder camera, construction and calibration, (1) 15*g*.
powder camera, modified MacEwan, (1) 15*a*.
powder data, for sepiolite, (6) 149*e*.
powder data, of synthetic iriginite, (5) 129*c*.
powder diagrams, of ZrW_2O_8, (1) 20*h*.
powder diffraction, of chromium chlorite, (4) 102*a*.
powder methods, in study of talc-tremolite structure, (2) 48*a*.
powder patterns, sine table for indexing, (3) 77*g*.
properties, of plastically deformed LiF, (7) 181*h*.
in quantitative phase analysis of clays, (10) 245*c*.
reflection and diffraction method, P (7) 166*c*.
scattering, β-back-, in determination of particle size, (7) 171*a*.
from lamellar systems, Fourier transform methods for studying, I, (7) 173*g*.
low angle, by Na borosilicate glasses, (7) 156*i*.
small angle, by clay minerals, (5) 127*c*.
small-angle, in study of structure of glass fibers, (10) 245*f*.
study, of Al and Fe phosphates containing K or NH_4, (3) 79*b*.
of carbonized coals, (5) 120*d*.
on chrome-magnesia brick used in open-hearth furnace, (11) 259*c*.
comparative, of monazites, (6) 147*j*.
of cristobalite in used silica brick, (11) 259*a*.
of factors causing variation in heats of solution of MgO, (10) 246*a*.
of high temperature reactions in clay minerals, (7) 180*a*.
of Indian clays, (3) 71*e*.
of natural and synthetic analcites, (3) 74*j*.
of nepheline structure, (10) 243*f*.
of nonferroelectric phases of Rochelle salt, (10) 245*a*.
of phase transitions in ferroelectric $PbNb_2O_6$, (10) 246*b*.
of pulverized fuel ash, (11) 268*b*.
of reduction of MoO_3 and oxidation and nitridation of Mo, (5) 128*h*.
of silicates of clinker, (3) 55*a*.
of Si_2P, (5) 127*b*.
X-rays, study (*continued*)
of solid solution of TiO_2, Fe_2O_3, and Cr_2O_3 in mullite, (6) 149*f*.
of synthetic coffinite, thorite, and uranothorites, (3) 79*b*.
of synthetic Mg–Al serpentines and chlorites, (3) 79*d*.
of system BeO–TiO_2–ZrO_2, (11) 270*j*.
of system BeO–UO_2–ThO_2, after high temperature treatment, (11) 270*b*.
of system SrO–Al_2O_3, (11) 272*a*.
of used chrome-magnesite refractories, (10) 232*c*.
tube, fine focus, (5) 119*f*.
Weissenberg patterns, of $BaTiO_3$, (10) 245*b*.

Young's modulus. See *Elasticity*.
Ytterbium, Yb^{3+}, paramagnetic resonance in Al and Ga garnets, (10) 237*d*.
Yttrium, compounds, DTA of, (8) 200*h*.
hard metals, structure and properties, (7) 161*a*.
iron ferrite, systems. See *Systems*.
oxide, vaporization at high temperatures by effusion, (6) 149*a*.

Zeolite, catalysts. See *Catalysts*.
as selective adsorbent, (7) 176*a*.
synthetic, preparation, properties, and uses, (6) 148*i*.
Zinc, compounds, effect on setting of Portland cement and plaster of Paris, (2) 28*g*.
determination by spectrophotometry, (2) 47*e*.
diffusion in ZnO, (9) 219*b*.
ferrite, antiferromagnetic transition in, (11) 262*h*.
ferrite, pigment, P (2) 45*c*.
halide, in oxidation-resistant article, P (3) 62*f*.
oxide, decreasing acidity of, P (10) 242*i*.
in engobes, (9) 213*e*.
low temperature luminescence in red region of spectrum, (9) 214*c*.
pressing, effect of storage atmosphere on sintering of, (10) 236*d*.
in silicate glasses, (5) 56*i*.
systems. See *Systems*.
selenide, production, P (8) 195*f*.
substitution for in titanium spinel pigments, (4) 84*c*.
sulfate, as polishing agent for glass, chemical processes, (6) 134*i*.
sulfide, crystals, growth of, P (11) 273*d*.
Zircon, ladle linings, for cleaner low cost metal, (5) 113*j*.
in opacification of high-temperature glazes, (2) 38*i*.
Zirconates, alkali, investigations of, (5) 123*f*.
Zirconia. See also *Refractories*.
in acid or basic glass, for promoting organization and increasing hardness, (2) 31*i*.
concentration, P (7) 167*i*.
fused, and zirconia-titania type abrasives, (1) 1*f*.
in fused cast refractories, P (3) 62*h*.
as glass polishing agent, P (8) 189*d*.
low-hafnium, studies on, (6) 148*e*.
monoclinic to tetragonal phase transformation in, (7) 180*c*.
replacement for SnO_2 in opaque glazes, (5) 115*i*.
solid solutions, with CaO and MgO, γ ⇀ α transition, (7) 173*j*.
stabilization of, P (5) 114*g*.
stabilization control, P (9) 213*f*.
systems. See *Systems*.
thermal anomalies of, (5) 127*f*.
Zirconium, -bearing materials, chlorination of, P (5) 122*f*.
boride, cemented, protective Cr-containing coating, P (9) 212*e*.
carbide, as protective coating for ferrous metal, P (7) 155*h*.
in chemical industry, (3) 71*d*.
chlorides, preparation, P (8) 199*a*.
indirect titrimetric determination in oxide mixture, (10) 244*j*.
minerals, B (6) 150*e*.
oxide. See *Zirconia*.
phosphate, as coating for luminescent materials, P (5) 117*d*.
separation from Hf by solvent extraction with alkyl phosphate, P (6) 149*d*.
silicate, in metal lapping compound, P (11) 250*b*.
spectrophotometric determination, (5) 127*h*.
sulfide, selenide, and telluride of, I–IV, (7) 180*g*.
tetrahalide, purification, P (4) 100*c*.
ZrW_2O_8, new ternary oxide, (1) 20*h*.
Zoning, detection in orthorhombic and uniaxial colorless minerals, (7) 171*h*.
Zunyite, crystal structure, (9) 219*j*.

TABLE OF CONTENTS

VOLUME 43, 1960

January [No. 1], pp. 1–54

1. J. J. Diamond and S. J. Schneider: Apparent Temperatures Measured at Melting Points of Some Metal Oxides in a Solar Furnace 1–3
2. I. Warshaw: Structural Implications of the Microscopy of Glass Surfaces 4–9
3. Leroy W. Tilton: Structural and Thermal Expansions in Alkali Silicate Binary Glasses 9–17
4. R. G. Rudness and R. W. Kebler: Growth of Single Crystals of Incongruently Melting Yttrium Iron Garnet by Flame Fusion Process 17–22
5. B. S. R. Sastry and F. A. Hummel: Studies in Lithium Oxide Systems: VII, Li_2O–B_2O_3–SiO_2 23–33
6. Irene S. Stemple and G. W. Brindley: A Structural Study of Talc and Talc-Tremolite Relations 34–42
7. Harold D. Wright: An Optical Study of Talc-Tremolite Relations 42–43
8. W. C. Ormsby and J. M. Shartsis: Surface Area and Exchange Capacity Relation in a Florida Kaolinite 44–47
9. George Economos and T. R. Clevenger, Jr.: Magnetic Ceramics: VII, Effect of Iron Oxide Particle Size on Nickel Ferrite Formation 48–52

Discussions and Notes

Dean A. Buckner and Rustum Roy: Note on a Subsolidus Study of the System $CaSiO_3$–$SrSiO_3$ 52–53
K. J. Notz and H. H. Jaffé: Correlation of TGA and DTA Temperatures in Decomposition Reactions 53–54
J. D. McClelland and E. H. Zehms: Thermal Conductivity of Magnesia from 1030° to 1880°C 54

February [No. 2], pp. 55–118

10. G. E. Mangsen, W. A. Lambertson, and B. Best: Hot Pressing of Aluminum Oxide 55–59
11. G. W. Brindley and S. Udagawa: High-Temperature Reactions of Clay Mineral Mixtures and Their Ceramic Properties: I, Kaolinite-Mica-Quartz Mixtures with 25 Weight % Quartz 59–65
12. Perry A. Foster, Jr.: Determination of the Cryolite-Alumina Phase Diagram by Quenching Methods 66–68
13. S. O. Agrell and J. V. Smith: Cell Dimensions, Solid Solution, Polymorphism, and Identification of Mullite and Sillimanite 69–76
14. W. B. Wilson: High-Temperature X-Ray Diffraction Investigation of the Uranium–Carbon System 77–81
15. W. H. Sutton: Apparatus for Measuring Thermal Conductivity of Ceramic and Metallic Materials to 1200°C 81–86
16. A. S. Argon, Y. Hori, and E. Orowan: Indentation Strength of Glass 86–96
17. A. R. Cooper, Jr.: Effect of Aspect Ratio and Viscosity Gradients on Flow Through Open Channels 97–104
18. G. Goodman: Ferroelectric Behavior in Barium Zirconium Metaniobate 105–13

Discussions and Notes

W. G. Garrett and L. S. Williams: Progress in Aqueous Slip Casting of Magnesia 114
S. J. Schneider and R. S. Roth: Perovskite-Type Compounds in Binary Rare Earth Oxide Systems 115
Sherman D. Brown: Temperature Dependence of Growth Processes in Glass Devitrification 116–17
Yoshio Iida: Time Dependence of NiO–Li_2O Solid Solution Formation 117–18

March [No. 3], pp. 119–72

19. E. C. Subbarao: Studies on Lead Titanate Ceramics Containing Niobium or Tantalum 119–22
20. John I. McIntosh and John E. Cox: Colorimetric Determination of Boron in Porcelain Enamel Frits 123–24
21. F. H. Dulin and D. E. Rase: Phase Equilibria in the System ZnO–TiO_2 125–31
22. F. P. Glasser and E. F. Osborn: The Ternary System MgO–MnO–SiO_2 132–40
23. Lawrence H. Van Vlack: Microstructure of Silica in the Presence of Iron Oxide 140–45
24. H. W. Newkirk and B. B. Brenden: A Carbon Arc Image Furnace and Microscope for Studies at High Temperatures 146–50
25. Yasumasa Goto and Toshio Takada: Phase Diagram of the System BaO–Fe_2O_3 150–53
26. G. L. Ploetz, A. T. Muccigrosso, L. M. Osika, and W. R. Jacoby: Dysprosium Oxide Ceramics 154–59
27. R. E. Mould: Strength and Static Fatigue of Abraded Glass Under Controlled Ambient Conditions: III, Aging of Fresh Abrasions 160–67

Discussions and Notes

W. Robert Sinclair, S. S. Flaschen, and F. G. Peters: Direct Deposition of Sulfide Glass Films by Evaporation 168
P. H. Fang, R. S. Roth, and H. Johnson: Class of Nonlinear Dielectric Materials 169
J. D. Mackenzie and J. L. White: The Si–O–Si Angle and the Structure of Vitreous Silica 170–71
Yoshio Iida: Evaporation of Lithium Oxide from Solid Solution of Lithium Oxide in Nickel Oxide 171–72

April [No. 4], pp. 173–228

28. T. M. Proctor and Paul M. Sutton: Space-Charge Development in Glass 173–79
29. W. E. Brownell: Retention of Sulfates by Fired Clay Products 179–83
30. A. E. Paladino: Phase Equilibria in the Ferrite Region of the System FeO–MgO–Fe_2O_3 183–91
31. F. A. Hummel, T. Y. Tien, and K. H. Kim: Studies in Lithium Oxide Systems: VIII, Application of Silicate Liquid Immiscibility to Development of Opaque Glazes 192–97
32. G. Richard Blair: Determination of Spectral Emissivity of Ceramic Bodies at Elevated Temperatures 197–203
33. Arnulf Muan and Shigeyuki Sōmiya: Phase Relations in the System Iron Oxide–Cr_2O_3 in Air 204–209
34. Paul J. Jorgensen, Milton E. Wadsworth, and Ivan B. Cutler: Effects of Oxygen Partial Pressure on the Oxidation of Silicon Carbide 209–12
35. C. F. Weaver, R. E. Thoma, H. Insley, and H. A. Friedman: Phase Equilibria in the Systems UF_4–ThF_4 and LiF–UF_4–ThF_4 213–18
36. Goro Yamaguchi and Hisako Miyabe: Precise Determination of the $3CaO \cdot SiO_2$ Cells and Interpretation of Their X-Ray Diffraction Patterns 219–24

Discussions and Notes

Yoshio Iida: The Lattice Parameter of Nickel Oxide as a Function of Lithium Oxide Dissolved 225
R. C. DeVries: Lowering of Curie Temperature of $BaTiO_3$ by Chemical Reduction 226
Pontus Ljunggren: Determination of Mineralogical Transformations of Gypsum by Differential Thermal Analysis 227
R. G. Robins and P. J. Baldock: Uranium Oxide Cleavage 228

May [No. 5], pp. 229–82

37. Patrick N. Walsh, Harold W. Goldstein, and David White: Vaporization of Rare-Earth Oxides ... 229–33
38. F. A. Mumpton and Rustum Roy: Low-Temperature Equilibria Among ZrO_2, ThO_2, and UO_2 ... 234–40
39. A. E. Gorum, W. J. Luhman, and J. A. Pask: Effect of Impurities and Heat-Treatment on Ductility of MgO ... 241–45
40. Byron B. Brenden, H. W. Newkirk, and J. L. Bates: Principles of High-Temperature Microscopy ... 246–51
41. R. M. Spriggs and A. L. Friedberg: Reaction Kinetics of Porcelain Enamel-Metal Systems ... 252–62
42. John V. Florio: Dielectric Properties of Alumina at High Temperatures ... 262–67
43. M. Krishna Murthy and F. A. Hummel: X-Ray Study of the Solid Solution of TiO_2, Fe_2O_3, and Cr_2O_3 in Mullite ($3Al_2O_3 \cdot 2SiO_2$) ... 267–73
44. Steward S. Flaschen, A. David Pearson, and William R. Northover: Formation and Properties of Low-Melting Glasses in the Ternary Systems As–Tl–S, As–Tl–Se, and As–Se–S ... 274–78
45. Peter R. Segatto: Analysis of Boron in Borosilicate Glasses by Neutron Transmission ... 278–81

Discussions and Notes

D. H. Whitmore: Apparent Thermal Conductivity of a Heterogeneous Ceramic Body Under Isothermal Conditions ... 281–82
F. H. Andres and J. H. Richardson: New Cement for Preparation of Ceramic Thin Sections ... 282

June [No. 6], pp. 283–336

46. George Dean and P. R. Jones: Factorial Design of Experiments in Ceramics, II ... 283–87
47. Ira Binder: Structure and Properties of Rare-Earth and Yttrium Hard Metals ... 287–92
48. G. R. Eusner and D. H. Hubble: Technology of Spinel-Bonded Periclase Brick ... 292–96
49. H. A. Sauer and J. R. Fisher: Processing of Positive Temperature Coefficient Thermistors ... 297–301
50. C. B. Sharpe and C. G. Brockus: Method for Measuring the Dielectric Constant of Ferroelectric Ceramics at S-Band Frequencies ... 302–305
51. Piedad de la Cierva and Francisca de Andrés: Crystallization of Silica on Polished Glass Surfaces ... 306–13
52. P. G. Kalman: Nonuniform Toughening of a Glass Disk ... 313–25
53. J. L. Parsons and M. E. Milberg: Vibrational Spectra of Vitreous $B_2O_3 \cdot xH_2O$ ... 326–30
54. G. T. Murray: Brittle-Ductile Transition Temperatures in Ionic Crystals ... 330–34

Discussions and Notes

J. B. Wachtman, Jr., W. E. Tefft, D. G. Lam, Jr., and R. P. Stinchfield: Elastic Constants of Synthetic Single-Crystal Corundum at Room Temperature ... 334
W. C. Ormsby and J. M. Shartsis: Clay Mineral Content of Two Domestic Kaolins ... 335
James F. Sarver and F. A. Hummel: Alpha to Beta Transition in Germania Quartz and a Pressure-Temperature Diagram for GeO_2 ... 336

July [No. 7], pp. 337–88

55. Charles A. Sorrell: Reaction Sequence and Structural Changes in Cordierite Refractories ... 337–43
56. D. H. Hubble and N. B. Dodge: A Study of Commercial Periclases ... 343–47
57. R. M. Glaister: Solid Solution Dielectrics Based on Sodium Niobate ... 348–53
58. F. Meller and M. E. Milberg: The Structure of Some B_2O_3-H_2O Glasses ... 353–56
59. D. K. Priest and A. S. Levy: Effect of Water Content of Corrosion of Borosilicate Glasses ... 356–58
60. Thaisa Demediuk and W. F. Cole: Contribution to the Study of Moisture Expansion in Ceramic Materials ... 359–67
61. V. L. Moruzzi and M. W. Shafer: Phase Equilibria in the System La_2O_3–Iron Oxide in Air ... 367–72
62. Charles O. Hulse and Joseph A. Pask: Mechanical Properties of Magnesia Single Crystals in Compression ... 373–78
63. Joseph J. Comer: Electron Microscope Studies of Mullite Development in Fired Kaolinites ... 378–84

Discussions and Notes

R. G. Seidensticker and D. R. Hamilton: Comment on Paper of R. C. DeVries on Barium Titanate ... 385
L. C. Shepley and A. B. Bestul: Variations of Surface Tension Calculated with Improved Approximation for Activity Coefficient ... 386–87
W. A. Hedden and B. W. King: Antimonate Glass for Infrared-Transmitting Windows ... 387–88

August [No. 8], pp. 389–438 Symposium on Glass Radiation

64. Paul W. Levy: The Kinetics of Gamma-Ray Induced Coloring of Glass ... 389–95
65. C. M. Nelson and R. A. Weeks: Trapped Electrons in Irradiated Quartz and Silica: I, Optical Absorption ... 396–99
66. R. A. Weeks and C. M. Nelson: Trapped Electrons in Irradiated Quartz and Silica: II, Electron Spin Resonance ... 399–404
67. T. M. Mike, B. L. Steierman, and Ed. F. Degering: Effects of Electron Bombardment on Properties of Various Glasses ... 405–407
68. S. W. Barber, K. E. Forry, and Ed. F. Degering: Effects of Electron Bombardment on Elasticity and Mechanical Damping of Certain Glasses ... 408–12
69. W. A. Hedden, J. F. Kircher, and B. W. King: Investigation of Some Glasses for High-Level Gamma-Radiation Dosimeters ... 413–15
70. Vittorio Garino-Canina and Sabatino Cohen: Thermoluminescence of Vitreous Germanium Oxide Containing the Impurity Aluminum ... 415–16
71. Adli M. Bishay: A Gamma-Ray Induced Absorption Band in Some Lead Borate Glasses ... 417–21
72. E. Lell: Synthesized Impurity Centers in Fused Silica ... 422–26
73. G. E. Blair: Applications of Radiation Effects in Glasses in Low- and High-Level Dosimetry ... 426–29
74. J. Paymal, M. Bonnaud, and P. Le Clerc: Radiation Dosimeter Glasses ... 430–36

Discussions and Notes

Perry A. Foster, Jr.: Liquidus Curves in the Quarternary System NaF–AlF_3–CaF_2–Al_2O_3 ... 437–38
M. L. Kronberg and J. E. May: Ductility of Magnesium Oxide Single Crystals ... 438

September [No. 9], pp. 439–96

75. E. C. Subbarao: X-Ray Study of Phase Transitions in Ferroelectric $PbNb_2O_6$ and Related Materials ... 439–42
76. P. E. Evans: The System UO_2–ZrO_2 ... 443–47
77. R. E. Carter: Dissociation Pressures of Solid Solutions from Fe_3O_4 to $0.4Fe_3O_4 \cdot 0.6CoFe_2O_4$ ... 448–52
78. J. F. Argyle and F. A. Hummel: Dilatometric and X-Ray Data for Lead Compounds: I, ... 452–57
79. Robert Scheuplein and Peter Gibbs: Surface Structure in Corundum: I, Etching of Dislocations ... 458–72
80. W. D. Kingery, D. C. Hill, and R. P. Nelson: Oxygen Mobility in Polycrystalline $NiCr_2O_4$ and α-Fe_2O_3 ... 473–76
81. Leon M. Atlas and Ross F. Firestone: Application of Thermoluminescence and Reflectance Methods to Study of Lattice Defects in Alumina Ceramics ... 476–84
82. Scott Anderson and D. D. Kimpton: Some Phenomena Related to the Hydrophobicity of Silicate Glasses and Adsorbed Oxygen ... 484–88
83. Y. Baskin, Y. Harada, and J. H. Handwerk: Some Physical Properties of Thoria Reinforced by Metal Fibers ... 489–92

Discussions and Notes

M. A. Bredig: The High-Temperature Cubic Phases of Uranium and Lanthaum Dicarbides 493
Salvatore J. Grisaffe: Thermal Expansion of Hafnium Carbide 494
G. Bayer: Cr_2WO_6, a New Trirutile Compound 495–96

October [No. 10], pp. 497–552

84. H. F. Rizzo, B. C. Weber, and M. A. Schwartz: Refractory Compositions Based on Silicon-Boron-Oxygen Reactions 497–504
85. Chikara Hirayama: Volatility of Lead Silicate and Lead Borate Binary Melts 505–509
86. Ke-Chin Wang, Lloyd H. Dreger, V. V. Dadape, and John L. Margrave: Sublimation of Cr_2O_3 at High Temperatures 509–10
87. G. W. Brindley and Dorothy M. Maroney: High-Temperature Reactions of Clay Mineral Mixtures and Their Ceramic Properties: II, Reactions of Kaolinite-Mica-Quartz Mixtures Compared with the K_2O–Al_2O_3–SiO_2 Equilibrium Diagram 511–16
88. Thomas Vasilos: Hot Pressing of Fused Silica 517–19
89. E. D. Lynch, J. H. Handwerk, and C. L. Hoenig: Oxidation Studies of Urania-Thoria Solid Solutions 520–24
90. J. E. May and M. L. Kronberg: Temperature Dependence of Plastic Yield Stress of Single Crystals of Magnesium Oxide 525–30
91. Arnulf Muan and Shigeyuki Sōmiya: Phase Equilibria in the System Iron Oxide–Cr_2O_3–SiO_2 in Air 531–41
92. Julie Chi-Sun Yang: The System Magnesia–Silica–Water Below 300°C.: I, Low-Temperature Phases from 100° to 300°C. and Their Properties 542–49

Discussions and Notes

O. N. Salmon and L. Marcus: Note on Sublimation of Lithium from Li-Ni Ferrite 549–50
H. F. Rizzo and L. R. Bidwell: Formation and Structure of SiB_4 550–52
Edwin K. Beauchamp: "Flash Etching" of Al_2O_3 Grain Boundaries 552

November [No. 11], pp. 553–610

93. I. C. Hope, J. Gabriel, and I. C. McDowall: Moisture Movement and Readsorption Phenomena in Dried Clay Articles 553–60
94. R. K. Francis and J. R. Tinklepaugh: Thermal Conductivity in Ceramic-Metal Laminates 560–63
95. R. M. Hudson, M. Kotyk, and G. L. Stragand: Influence of Cold-Reduction Practice on Hydrogen Behavior in Enameling Steels 564–70
96. Guy E. Rindone, Delbert E. Day, and Ronald Caporali: Relative Acidities of Glasses Containing Al_2O_3 and TiO_2 as Determined by the Oxygen Electrode 571–77
97. P. Baxter and N. J. Hellicar: Electrical Properties of Lead-Barium Niobates and Associated Materials 578–83
98. T. C. M. Pillay, John D'Entremont, and John Chipman: Stability of Hercynite at High Temperatures 583–85
99. J. B. MacChesney and Arnulf Muan: The System Iron Oxide–TiO_2–SiO_2 in Air 586–91
100. Daniel L. Deadmore and James S. Machin: Phase Relations in Some Halide Systems 592–94
101. D. W. Lee and W. D. Kingery: Radiation Energy Transfer and Thermal Conductivity of Ceramic Oxides 594–607

Discussions and Notes

R. E. Thoma, C. F. Weaver, H. A. Friedman, and L. A. Harris: The Compounds $NaF \cdot BeF_2 \cdot 3ThF_4$ and $NaF \cdot BeF_2 \cdot 3UF_4$ 608–609
S. Marzullo and E. N. Bunting: Some Ceramic Dielectrics with a Very Low Temperature Coefficient of Capacitance 609
C. R. Robbins: The Compound $BaTiGe_2O_8$ 610

December [No. 12], pp. 611–79

102. K. H. Kim and F. A. Hummel: Studies in Lithium Oxide Systems: IX, Li_2O–Al_2O_3–TiO_2 611–14
103. J. D. Mackenzie: Fusion of Quartz and Cristobalite 615–20
104. Cyrus Klingsberg and Rustum Roy: Solid-Solid and Solid-Vapor Reactions and a New Phase in the System Mn–O 620–26
105. E. A. Aitken: Initial Sintering Kinetics of Beryllium Oxide 627–33
106. W. E. Moody, W. D. Whitehead, and W. W. Kriegel: Activation Energy for Diffusion of ^{133}Xe Through MgO-Ni Cermet Compacts 634–40
107. F. P. Knudsen, H. S. Parker, and M. D. Burdick: Flexural Strength of Specimens Prepared from Several Uranium Dioxide Powders; Its Dependence on Porosity and Grain Size and the Influence of Additions of Titania 641–47
108. R. R. West, D. H. Fleischer, N. Hecht, W. R. Hoskyns, A. Muccigrosso, and D. H. Schelker: Causes of Chipping of a Stiff-Mud Facing Brick 648–54
109. R. H. Doremus: Diffusion of Oxygen from Contracting Bubbles in Molten Glass 655–61
110. Robert J. Ryder and Guy E. Rindone: Internal Friction of Simple Alkali Silicate Glasses Containing Alkaline-Earth Oxides: I, Experimental Results 662–69

Discussions and Notes

Rustum Roy: Metastable Liquid Immiscibility and Subsolidus Nucleation 670–71
K. H. Woodside and W. C. Ormsby: Surface-Area Determination of Kaolinite Using Glycerol Adsorption 671–72

Author Index to *The Journal* 673–74

Subject Index to *The Journal* 675–78

Instructions for Preparation of Papers and Notes ..... Inside Back Cover, January Journal